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ELEMENTS

OF

POLITICAL ECONOMY:

DESIGNED AS A

Manual for Education.

BY

HORACE WILLIAM CLIFT.

THIRD EDITION.

Calcutta:

PRINTED AT THE SCHOOL-BOOK SOCIETY'S PRESS.

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PREFACE.

PUBLIC OPINION no longer imposes the necessity that a writer on Political Economy should force the way for his work by a defence of the Science. His main principles, at least, are now acknowledged; and, to use the words of Sir John Herschel, "they are confessedly founded on the moral and physical nature of man; and however lost sight of in particular measures, however controverted, or even borne down by clamor, they have yet a stronger and stronger testimony borne to them in every succeeding generation, by which sooner or later, they must prevail."

But if these principles *are* truths, they are momentous truths. They must, from their nature, pervade every relation in which man can stand to society. He may slight them, and act contrary to their dictates; but in so doing, he will surely bring suffering either on himself or others. He may act with them to-day, unknowingly; against them to-morrow, by design; but the certain evil will destroy the chance-born good. Surely it is folly thus to grope in the dark, when light is to be had.

Sound reasons for making Political Economy a branch of education are obvious. By education, we design to furnish youth with principles for the guidance of their future lives. Much, even of the most practical education, cannot immediately be brought to bear on the practice of those who receive it. Yet we know their acquisition of this, to be even of higher importance than their acquisition of what is more directly useful: seeing, that if principles are not acquired in youth, they cannot be acquired in manhood, amidst the wild tumult of life, without far greater difficulty, if at all. On the morning of battle, it is too late for the completion of discipline; the perfect soldier must be trained to arms *from his youth up*.

Amongst the porspective branches of education, Political Economy holds a high rank. Every young man will be controlled by its principles, whether he learns them or not; nay, every one will become a Political Economist in his own person. He may be a mistaken one—a bad one; but he will surely have his opinions on subjects that belong to the science, and his theories too. Few will deny the truth of this, who recollect, that the most vehement foe to Political Economy, with whom they are acquainted, never hesitates to descant, and speculate on Rent, Profits, Wages, Taxes, and so on. The

reason is obvious: he cannot avoid topics, so thoroughly interwoven with all his own interests. If for no higher reason then, yet for the mere purpose of saving a youth from talking folly, (on one class of subjects,) all his life, it is worth while to teach him the great principles of Political Economy.

The need which appears to exist in this country, of a plain, short compendium of these principles, is the reason why this book has been written. How far it is fitted to answer its purpose, those who read it must decide.

It is, however, necessary to remark, that such being the motive, the object became rather to *make* a book than to write one: and hence the author, (if author he may be called,) has unscrupulously taken from every source within his reach, whatever appeared suitable to his purpose. If any who are familiar with Malthus, and MacCulloch, and Smith, should occasionally find passages almost verbatim from these writers, they must recollect this acknowledgment and justification. Such passages are not numerous; but they are sometimes unaccompanied with references, when authority seemed of no service. It would have been easy to steal the *thoughts*, and re-clothe them; but when the expressions appeared plain on the whole, yet capable of being made plainer to beginners, by the alteration of one or two words, or sen-

tences, no more has usually been attempted. Yet references are clearly impossible in such cases: perhaps the real authors would not own their words with the alterations; in which elegance, and every thing else, have always been sacrificed to plainness.

Under these circumstances, nothing more than a general acknowledgment can be made. Such, however, is always a serious disadvantage to the author who makes it. A reader, who thinks about the matter at all, will say of every thing good in the book, '*this* is stolen;' and of every thing bad, '*this* is his own.' But the implied censure, though ill founded, is not altogether undeserved: for if a man *will* steal, he must be a fool to take brass when gold lies before him.

The great principles of Political Economy present little difficulty; nor is their application, in the more important cases, otherwise than simple and plain. Moderate ability and attention, will quickly put a young man in possession of arguments to refute such assertions as these:—"*Accumulated property is usurpation,*" [GODWIN:]—"*Such is the lot of humanity, that a patriotic desire for the grandeur of one's country, is but a wish for the humiliation of our neighbours:*"—"*It is clearly impossible for one country to gain except by the loss of another:*"—"*A citizen of the world (or philanthropist) connot wish his country to be greater or less, richer or*

poorer," [VOLTAIRE:]—"*There is nothing in trade connected with an enlarged mind,*" [JOHNSON:]—together with innumerable other false and pernicious opinions, concerning Machinery, Population, and Wages, held not by vulgar men, but by those who bear the character of enlightened and distinguished observers.

It is hoped that this little volume will be found to contain the principles for refuting such errors, set forth in a manner which, if not quite satisfactory, may at least excite to further search. When the reader is unconvinced, let him beware of thinking that no argument capable of convincing him exists, because he does not find it here. The arguments have not been selected entirely without care, nor drawn up without an endeavour to place them in the strongest light; but, after all, they "are fitted, not to abide the test of a captious controversy, but that of a sober, and even forgiving examination; not armed at all points for battle, but dressed to visit those who are willing to give a peaceful entrance to truth."

Calcutta, Dec. 18*th,* 1834.

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ELEMENTS

OF

POLITICAL ECONOMY.

INTRODUCTION.

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THE grand theme of Political Economy is Wealth. We shall open our treatise with propriety therefore, by defining this term, and glancing at certain neglected characteristics of the thing itself. For the latter proceeding, there is urgent necessity; because Wealth—an object of pursuit which kindles the fiercest passions that agitate human nature—is continually judged without equity. Nothing is more unjustly despised, on the one hand; nothing more blindly idolized, on the other.

In common discourse, wealth and money are synonymous; and we sometimes hear even the wealth of nations estimated solely by the quantity of money they possess. Few errors are more plain. A nation that enjoyed a constant supply of necessaries and luxuries, would be rich, and accounted so though it should be entirely destitute of money; while, on the contrary, were all the money of Europe, and that alone, bestowed on the savages of New Holland, they would yet remain miserably poor. Wealth therefore is different from money; which is only, as will afterwards be shown, one important species of wealth.

Neither is any article wealth, how useful, or how necessary soever it may be, unless it possess *value in exchange:* that is, unless it will buy other necessary or useful articles. Air and light, for instance, are things without which we could not live; but as they exist in unlimited abundance, and are free to all, they can neither buy, nor be bought—they do not possess exchangeable value; and therefore they form no part of the wealth of nations or individuals.

Wealth therefore may be defined as *all the material things necessary and pleasant to man which possess value in exchange.*

As the Creator ordained in the beginning, that by the consumption of wealth man should live, the earnest exertions of the great majority of the human race are necessarily directed towards its acquisition. Man is not clothed as the lily, nor fed as the beast of the field; from him, nature requires industry and thought as the price of subsistence: and it is this apparently severe law that rouses him from indolence, subdues his natural dislike to exertion, draws into full vigor and activity his nobler faculties, and renders him

patient and industrious, ardent and skilful. But though wealth is absolutely necessary,—as raiment, for the protection of our frail bodies against the cold, the sunshine, and the storm, and as food, for the constant supply of nourishment, without which our frames quickly decay, and cease to exist,—the importance conferred on wealth by this circumstance alone, great as that may appear, is almost infinitely augmented by another, less obvious, but of a far higher order. Man does not discharge half his duty, and surely he does not experience half his delight, in ministering to the wants, or to the pleasures of the body: there is a nobler part, which in the search after happiness claims more than equal care. Yet were not wealth accumulated, this claim must pass unheeded. In the life which then could not fail to be the stern lot of all,—a life of constant toil to satisfy the daily craving of the bodily appetites,—it would be impossible to cultivate the mind, to ameliorate the selfish passions, or to make one step in moral and intellectual improvement: the hungry savage must for ever continue to combat the beasts of the forest for raiment and food, scarce conjecturing that in aught he was more excellent than they.

It appears, therefore, that wealth is indispensable, not only to the existence of the individual, but to the happiness of society. In accord with this conclusion are the facts, that a needy people is never refined, nor a rude people ever opulent: and it would not be difficult to show, that the comparative progress of nations in civilization, depends more on their comparative increase in wealth than on any other single circumstance. Nothing indeed seems too arduous for the joint power and sagacity of man to effect, if this increase be but rapid. By it, the temples and

palaces of Venice were upreared on the waste islands of the Adriatic; the marshes of Holland were won from the ocean to become the dwelling-place of a great people: and both were rendered the favorite seats of art, science, and luxury. It is true, these monuments of its achievements now show symptoms of decay; but wealth is ever active, and in England, at present, its power is not less magnificently evinced. It is the wealth of this once rude island that now studs every sea with her fleets, cuts pathways through her mountains, directs the course of her streams, creates smiling gardens in her wildernesses; and in a word, enslaves earth, air, and ocean to the will of her people.

Until we obtain just notions concerning wealth, —notions little in accord with those of some moralists, who, not having distinguished between its use and abuse, denounce it as inimical to the happiness of mankind,—we shall be unprepared fully to appreciate the science of which wealth is the grand subject—to regard that science as one which teaches real, practical wisdom. But needs the advocate of Political Economy advance aught beside the preceding simple statement of facts, to produce conviction, that neglect of this study is unwise, or to excite a lively interest in the task?

Political Economy is *the science of the laws which regulate the production and distribution of wealth.*

Keeping in view our definition of wealth, it is evident that all things to which the term is applicable, must be made or produced, before they can be possessed and enjoyed. Hence the investigation of those laws which influence the production of wealth,—an article essential to our well being,—is a pursuit of no ordinary moment. And further,

almost every species of wealth is produced, not by a single person, but by the joint efforts of a multitude, consisting of various classes, such as capitalists, whose share of the fruits is called *profits*, and hired laborers, whose share is their *wages*; the laws therefore which determine the portion of what is produced, which falls, or which should fall, to the share of each class, are also of vital interest to all mankind. But before we proceed to discuss these laws, a few preliminary inquiries are requisite.

First then, concerning the origin of wealth. "The annual labor of every nation," says Dr. Smith, "is the fund which originally, and at all times, supplies it with the necessaries and conveniences of life."—It is not by gold, nor by silver, but by labor, that all the wealth of the world was originally purchased."—"Labor was the first price—the original purchase-money—that was paid for all things." Such language properly contradicts the common opinion which holds land to be the source of wealth. In fact, it would be as correct to say that land is the source of pictures and statues, because it supplies the painter and sculptor with materials, as to say that it is the source of wealth, because it supplies the matter of commodities. A brief examination will show, that land, though it does afford materials, without which, it is true, wealth could not be produced, has no claims to the character in question, superior to those which might be urged in behalf of light and air, sunshine and rain. The array of facts which prove, at least, that climate and fertility, extent and situation, (the properties of land deemed most efficient) are totally incompetent to render a people opulent and powerful, is sufficient to convince any disinterested inquirer. For our purpose, a few examples will be enough.

The Sultan of Turkey rules one of the fairest portions of the earth: it is watered by some of the noblest rivers of the old world; it possesses many enviable situations for commerce; it enjoys a temperate climate; and if mere fertility, or natural advantages of any kind, could bestow prosperity, its people might inherit the opulence and power of their fathers: yet the great mass of them are poor and miserable, and the nation is impotent and degraded. The pre-eminent wealth and comfort enjoyed by the inhabitants of the salt marshes which form the country of Holland, contrasted with the wretchedness of the people of Spain and Italy,—countries, be it observed, containing large tracts of the most fertile soil in Europe,—might be adduced as evidence which pointedly excludes land from ranking high amongst the sources of wealth.

Perhaps, however, the Spanish colonies in America present us with the most striking proof of the total inefficacy of a boundless territory, and inexhaustible fertility, in making men wealthy, and nations powerful. The contrast between these and the United States affords a most instructive lesson. The Spanish colonies were founded in America, nearly a century before the English settled in the north of that continent. The Spaniards discovered two populous and wealthy nations, which they plundered, and enslaved, in order to increase their own gains. The fertility of that country is such, that we are told by Humboldt, "a spot of ground in New Spain, cultivated with bananas, is sufficient for the subsistence of fifty persons; while an equal space in Europe, cultivated with wheat, would not support more than two." The labor (and it is rude, untutored labor) of one person, two days in the week, is there sufficient

to support a numerous family. In Mexico, maize yields on an average one hundred and fifty fold; while in Europe, the farmer thinks his crop excellent, if he obtain eight bushels of wheat for the one sown. Yet, with all, it is well known, that in wealth and population these favored colonies are not to be compared with the United States. Indeed, the vast fertility of their soil, instead of stimulating the accumulation of wealth, appears to have fostered indolence to a degree which entails on the people the horrors of frequent famines. "The streets of the capital," says Humboldt, speaking of Mexico, "are crowded with between twenty and thirty thousand unfortunate wretches, who pass the night without any shelter, and lounge in the sun by day, entirely naked, or covered only with a blanket. They never ask charity, and if they labor one or two days in the week, they earn enough to purchase maize, or some of the ducks that abound on the lakes of Mexico." "Famines," he adds, "are very common in almost all these regions, and occur whenever a great drought, or any other local cause, injures the harvest of maize." On the other hand, as we all know, the people of the United States are abundantly supplied with the means of subsistence: they are well fed, comfortably clothed, active, enterprising, and moral.

There is every reason to suppose, that climate and soil were the same in the eastern world three thousand years ago, when it was the seat of mighty empires, as they are at present. They were certainly the same in ancient, as they are in modern, Italy; and the same for the American Indians as for the European settlers: they were also far more favorable to the Spanish than to the English. But the earth is fruitful to the

careful husbandman alone. Little as she yields to the native savage, or the indolent settler, she yields even that little only to his labor; and she yields no more to others, than to him, except in return for superior industry and skill.

These facts destroy the opposing claims of climate, fertility, of every thing indeed, except the powers and faculties of man himself; and the principle that labor is the source of wealth thence becomes clear. "If by reflection," says M. Canard, "I abstract from my watch all the labor which has been expended on it, there will remain nothing but some portions of mineral existing in the bowels of the earth, where they have no value whatever. If in the same manner I decompose the bread which I eat, and cut off, one after another, the qualities it owes to labor, there remain only a few stalks of a species of grass scattered in the desert, and destitute of all value.—To this we may add, that wheat has been so changed by labor, and is now so entirely the creature of industry, that the wild herb is not certainly known: it is only supposed to be a kind of grass, which probably continues to grow in a wild state. Even the spontaneous productions of the earth, which alone give it the semblance of productive power, must be gathered, or taken possession of, by labor. "Place us," says Mr. McCulloch, "on the banks of a river, or in an orchard, and we shall die, either of thirst, or of hunger, if we do not, by an effort of industry, raise the water to our lips, or pluck the fruit from its parent tree."

It will have been anticipated, from the remarks already made upon savage and civilized nations, that there is a vast difference in their productive power. But the excess of the produce of a definite number of persons composing a civilized

community, over the produce of an equal number of savages, must not be taken as the measure of this difference; for the obvious reason, that in one case, every adult labors, while in the other, many do not labor. "Every individual," says Dr. Smith, speaking of savages, "who is able to work, is more or less employed in useful labor, and endeavours to provide, as well as he can, the necessaries of life for himself, and such of his family, as are either too old or too young, or too infirm, to go a hunting and fishing. Such nations, however, are so miserably poor, that from mere want they are frequently reduced, or at least, think themselves reduced, to the necessity of sometimes directly destroying, and sometimes abandoning their infants, their old people, and those afflicted with lingering diseases, to perish with hunger, or to be devoured by wild beasts. Among civilized and thriving nations, on the contrary, though a great number of the people do not labor at all, *many of whom consume the produce of ten times, frequently of a hundred times, more labor than the greater part of those who work*, yet the produce of the whole labor of the society is so great, that all are often abundantly supplied; and a workman, even of the lowest and poorest order, if he be but industrious and frugal, may enjoy a greater share of the necessaries and conveniences of life than it is possible for any savage to acquire."

In Great Britain, for example, it appears from the census of 1820, that only 333 families out of every 1000, or about a third of the whole, are engaged in agriculture, manufactures, and commerce. It is difficult to ascertain what proportion of the society does actually provide food and clothing for the whole, because many artizans

minister only to the luxuries of a few, and in almost every family, some do not labor at all. The very young and the very old, the sick and the imbecile, cannot labor; others are excused by custom; and in some trades, such as those of the carpenter and smith, the man only, of the whole family, labors. If we suppose, that in the families which do labor, one person out of six does not labor, which is a very low estimate, we shall conclude, that little more than a *fourth* of the people provide every thing consumed by all.

From what has been stated, we cannot fail to discover, that the growth of nations and individuals in opulence must be attributed to increasing efficiency of labor, and improvement in the mode of distributing its produce. Hence, the science of Political Economy resolves itself into two branches: one treats of the circumstances which influence the productive power of labor; the other, of those which determine the distribution of its fruits. These circumstances are of two kinds—*Natural* and *Social:* the first comprehending those which do not originate with, or depend on governments; and the second, those which *do* so originate and depend. It is important that this distinction should be carefully observed, because though social regulations, as well as natural laws, *influence* production and distribution, the latter alone *increase* production, and lead to the *just* distribution of what is produced. These benefits are the effects, not of legislative wisdom, but of the various interests, passions, instincts, and affections of mankind. Yet, at the same time, it should not be overlooked, that if wealth is essential to our existence, certain courses of action, which checks its production, are no less essential to our happiness. So high are the lawful aspirings

of man, that existence itself may be even a profitable sacrifice; much more then any given portion of wealth: and without doubt, the sacrifice of wealth, exacted by many social regulations, is highly conducive to public order and virtue, and through them, to human happiness.

The foundations of all national greatness are the increase of people, and the improvement of their condition. But unless there existed in the human heart a natural love of life and of offspring, and a strong desire of 'rising in the world,' which no toil can subdue, and no privation extinguish; unless the laborer's industry, which is the only source of national opulence, had been always *more* than enough to supply *him* with the means of gratifying these passions,—how could any race of people have multiplied and improved, seeing that no man ever labored for labor's sake, or was ever suffered at any time, or in any place, even in the United States of America, to enjoy the whole of his earnings? That in the sweat of his face, man shall eat bread, is a law of his being; but it is no less a law that the external world shall yield bread to his toil. Thus the world is adapted to man, and man to the world: the laws which rule both are unalterable, and will for ever connect him, how exalted soever may be his hopes, with the clod of the valley, from which he sprang. Hence there is ample reason to conclude, that the motives which urge him to seek for and apply the means of rendering labor productive, and all the minute circumstances flowing from them, which cause augmented production, and just distribution, are neither created nor changed by governments, but implanted in his being, and on that of the world about him, by the Author of both.

With these *intermediate* circumstances, effects

of the everlasting necessity to labor, and causes of all production and just distribution, will be our chief concern. Social regulations indeed are so numerous and variable, that except when necessary to illustrate natural laws, they will find no place in this book. They act principally on distribution, and through that, on production. Taxes, when levied to maintain useless persons in idleness, lessen the natural reward of labor, and thus discourage production, by first vitiating distribution. Restrictions on commerce, or laws which forbid the buying and selling of things at the best market, without the payment of a fine for the privilege of doing so, act precisely in the same way. But natural and social laws exert a mingled influence on most questions in the science of wealth; and though very desirable, it is so extremely difficult to discriminate between their respective effects, that those of the one class are often attributed to the other. For example, the increase of population, or the failure of the crops from a bad season, has a tendency to raise the price of corn, and to force the draining of marshes and culture of heaths. But a law which forbids the buying of corn in countries where, owing to different causes, it may be plentiful and cheap, will have the same effects. Now, let these or similar natural and social circumstances act together, or in opposition to each other; their effects become so blended, that it is hard to allot its due share to either. Hence we are perpetually liable to blame our legislators when they have no fault, and to praise them when they have no merit.

It must be remarked also, that these two classes of circumstances are not to be treated in the same manner. "The natural laws which determine the prosperity of nations, their wealth, and civilization,

are not the work of man: by observation and analysis we discover, we do not establish them." We have first therefore to *discover* all the natural circumstances which influence production and distribution at all times and places; and by them as a test, we should *examine* social regulations. The former ought to be the rule of our conduct; and we must first ascertain the rule, before we can decide how far it has been followed, or departed from.

Such are the *Objects* of Political Economy. That they deeply concern every human being has been shown, though imperfectly: and none can deny that such knowledge as we have described is fitly dignified with the name of science; since it regards man as a part of the great system of the universe, and supposes that his conduct is controlled or punished, in every minute particular, by laws universal and invariable as those which regulate the growth of plants, and the motions of the heavenly bodies.

PART THE FIRST

PRODUCTION.

CHAPTER I.

CAUSES WHICH AUGMENT THE EFFICIENCY OF LABOR.

Labor of two kinds,—mental and bodily.—Both employed in all production.—Enumeration of the circumstances which increase the efficiency of labor.—All these combine to render labor productive.

Evidence having been already brought forward sufficient to establish the principle that all wealth is created by labor, and therefore its consequence, that the circumstances which cause increased production of wealth, are those which increase the efficiency of labor,—we shall next proceed to determine these circumstances, and to examine each separately, in order to ascertain its peculiar influence. But on the threshold of this investigation, it is discovered, that besides the mere exertion of our bodies, there is also another kind of exertion properly termed labor, namely, that of the *mind*. This is employed in observing the order of nature, and in ascertaining, from a comparison of many, those particular modes in which the labor of our hands may be applied with most advantage. It terminates frequently in manual adroitness, as in the learning of a craft, though practice also is requisite: or it may give a new

capacity to the mind itself; as, for instance, in the man who having studied the laws of mechanics becomes capable of inventing machines.

Both mental and bodily labor are used, in a greater or less degree, by every individual who labors at all, and both are equally necessary to production; for they operate together, like the hand and the axe in fashioning a block of wood. So far as man is concerned, bodily labor is the immediate cause of all wealth; mental labor acts only through this, setting it in motion, and directing it, as the hand sets the axe in motion, and directs its stroke. After the goldsmith has acquired his skill,—made himself familiar with the art of fusing, casting, and polishing the metal,—he sets to work, and by the labor of his hands, combined with constant attention and contrivance, makes a ring or a bracelet. The author and the architect, who chiefly use mental exertion, and mental skill, labor with their bodies also, though in a less degree than the ploughman and shoemaker. Yet these latter again, and even persons who fill the meanest offices in society, though their labor in the main is bodily, must, in addition to that, employ some portion of mental exertion.

As the two kinds of labor thus work in close and constant fellowship, how unreasonable is it to exalt either at the other's expense? The labor of the head fairly earns wealth, and it should not be grudged; while that of the hands, merits respect, and it should not be withheld. Yet bodily labor being the immediate cause of wealth, the circumstances which increase the efficiency of this, form the precise object of our inquiry; amongst which, mental exertions hold the first rank. Reasons have already been shown—and more will appear as we proceed—for concluding, that all

such circumstances must be *natural.* They may be classed as follows:

1. Observation and Knowledge.
2. Division of Labor.
3. Accumulation of Capital.
4. Security of Property.

The preceding catalogue may be, and probably is, incomplete; though the last three are all the circumstances usually mentioned. Perhaps the influence of observation and knowledge has been considered as too obvious to need being insisted on: we place it first and foremost, because it is the most interesting and most important of all. But that our enumeration is correct, so far as it goes, will appear on referring to almost any article of wealth: other circumstances may, and perhaps, must, contribute to production, but that every one of these must, we know. How else could a steam-engine, for instance, be constructed? Had not observation and knowledge been at work on the properties of air and water, it could never have been thought of;—nor would it ever be made, unless security of property afforded a reasonable hope of enjoyment after labor;—nor unless capital —food for the workman, and materials for the work—were accumulated;—nor unless division of labor were practised; for the varied skill necessary never yet resided in one head and one pair of hands. We shall examine each of these circumstances in its turn; endeavouring to display its peculiar effects, and to discover the laws which regulate its operation.

CHAPTER II.

THE INFLUENCE OF KNOWLEDGE ON THE WEALTH-CREATING ARTS.

The influence of knowledge in different stages of civilization.—Savage life.—The agricultural state.—Rotation of crops, and introduction of new vegetables.—Manufactures.—The iron trade.—Coal.—The miner's safety-lamp.—Simple mode of quarrying stone near Seringapatam.—Sugar-refining.—Gas-lights.—General influence of Chemistry.—Saving of labor by machines.—The Bramah Press.—Steam-engine.—Cotton Manufactures.—Universal influence of knowledge.

THE lot of man is cast on a world regulated by certain fixed and universal laws, where his own labor must procure the means of preserving and sweetening life. It is therefore necessary that he should know at least some amongst these laws, in order to be sure of having them on his side in all he undertakes; so as neither vainly to struggle against invincible opponents, nor unwisely to neglect their help, when as allies they are irresistible. To meet this necessity, the faculties of man are so ordered that he is able to discover many of the laws of nature with ease, and hence to profit by their aid in forwarding his own purposes. How far he may push his inquiries with success, it is impossible to say: the discoveries of modern days seem to have overstepped all limits; and we shall attempt to show, that the progress of knowledge clears the way for improvement in the arts of life to follow with equal steps.

As knowledge then may be, and must be, acquired, we conclude at once, that no state of society can exist in which it is entirely wanting.

Accordingly, if we take one of the lowest grades of human life,—that for example in which man subsists by hunting and fishing,—even here we find observation active, and its results applied with ingenuity. In order to procure, with tolerable regularity, his scanty meal, and the skin to cover his limbs, the savage hunter must have closely observed the habits of the beasts which furnish these things—their haunts, their means of defence, and their arts to elude his pursuit;—he will have noted also what materials are best adapted for his weapons and fuel, and the means by which he can most readily kindle a fire to dress his food;—if he dwell near the sea, he will scan the heavens, and should their aspect be such as he has seen followed by storms, will forbear to launch his fishing skiff;—and, moreover, on all those subjects he will inherit some information from his fathers. Altogether, his knowledge will be small indeed, but the possession of each fragment is to him a great benefit; and it is obvious, that any addition to the precious stock must tend directly to increase the produce of his labor.

It is the same in the pastoral state. The future shepherd could not entirely relinquish the chase, until he knew, from experiment, that certain animals might be made to thrive under his care. The young would sometimes fall into his hands alive, and, from knowing their food when at large, he was enabled to preserve them, and to obtain a nearer view of their natural habits. Many trials of this sort were probably unsuccessful; but as each failure taught him a lesson, he gradually laid up a knowledge of the proper modes of breeding and rearing a flock, and of the spots where pasturage was most abundant at each season of the year; the reward of his perseverance at last

arriving, in a supply of food far more plentiful and certain than wild animals could afford.

The next step in advance is the agricultural state: and herein, the effects of observation and knowledge, though not their highest achievements, are beautifully displayed. Agriculture raises man from the wandering life of the Tartar, leads him to choose a home, and, in a more ample supply of wholesome food, gives him the power of multiplying, and of civilizing his species. The difference between the careless and rude tillage of Syria, where the plough is but the single-forked branch of a tree, and the refined culture of England, guided by extensive knowledge, and aided by powerful machines, is indeed immense: yet how could even the former be carried on without knowledge? The most ignorant savage that ever scratched the earth, must have observed the unfailing succession of seed-time and harvest, the more obvious of the various properties of soils, the plants best suited for food, and have acquired some skill in ploughing the ground, and in sowing seed, or he could never designedly have raised a single stalk. As his knowledge and skill increased, his food would cost him less exertion, and only part of his time; thus leaving him free to employ the remainder in improving his hut, and making articles of clothing superior to those he had as yet been able to procure. But as the influence of knowledge on agriculture has been most forcible in Europe, we shall select a few instances from the many in which it has there so greatly augmented the efficiency of labor employed in raising food, or the raw material of various manufactures. They merit particular attention.

The best soil in England will not yield the same kind of crop every year; and on this

account, several different crops are now sown in rotation. Corn cannot be grown for more than two successive years, and such, apparently, is the exhaustion of the land from these crops, that until lately, farmers were accustomed to let it lie idle every third year, in order to recruit its strength. A skilful agriculturist, who from a long course of experience, and the recorded observations of others, was fully alive to the circumstance of different crops requiring different soils, or, in other words, different nourishment, conjectured, that although his fields would not yield corn the year during which they lay *fallow*, they might yet, without suffering any check in recovering their power, afford him a green crop, on which he could fatten sheep to manure his land, and to produce wool and mutton for sale. The memorable result was, that land under his management produced nearly one-third more than before. Many green crops were introduced as fodder for cattle through the winter; which not only increased the quantity of animal food, but the quantity of manure, and hence of corn itself. These benefits, be it remembered, were not consequences of a chance thought, but the natural effects of bringing knowledge to bear on the point in hand.

The introduction of potatoes is another agricultural improvement, the offspring of observation and knowledge. Potatoes were brought from America to England by Sir Walter Raleigh, about the year 1586. An acre of land cultivated with this root, will yield more than twice the food it would do were it cultivated with wheat. But this is not all: potatoes are considered better than either turnips or cabbages for fattening cattle; and they can easily be preserved through the winter from frost, by which the others are very

liable to be destroyed. They are also extremely useful as a first crop for land newly broken up, and the profit of this crop has led to the culture of many acres, that otherwise must have still remained a neglected waste. Potatoes are now in general use throughout Europe, and they have every where increased population ; but in Ireland, the soil and climate of which are peculiarly favorable to their growth, the increase has been astonishingly great. In 1672, the people of that island were estimated at a million and a quarter; in 1821, their number was *seven* millions. The greater part of these people live almost entirely on potatoes; and though (from other causes) they are miserably poor, they owe most of what food they do procure to the knowledge and observation of the navigator, who seeing that the root was fit to be eaten, and likely to flourish in England, imported it from the New World. Indeed, several millions of human beings seem to be indebted to him for existence, as without the potatoe, it is impossible to conceive how they ever could have existed.

Nor is this a solitary instance ; many similar benefits have been conferred on agriculture by the same agency ; for, of all the roots and other vegetables now cultivated in England, very few are natives of that country. Now, before any person could think of importing a plant from another country, he must have known, or supposed, from what he had previously learned, that its seed or root would keep during the passage ; and from observing some likeness between the soil and climate of the two countries, have formed hopes that it would grow in his own. Accordingly, we find that *learned* travellers, like Sir Walter Raleigh and Sir Richard Weston, in former times introduced potatoes, turnips, and clover from

abroad; and Arthur Young, Lord Kames, Mr. Coke, and other scientific persons, are the authors of those great improvements in agriculture which have spread throughout the kingdom in our own day.

But knowledge, in producing skill, does not only *multiply* the means of subsistence: so great is its power, that we may almost say it creates *new* animals and vegetables for our food. The woolly sheep and huge oxen, reared by our graziers, retain little resemblance to their parent stocks: and of all the vegetables most valued by man, not one is now found as we have it, growing naturally. In addition to wheat, already mentioned, rice, barley, rye, and oats are plants improved by culture to such a degree, that we cannot recognize their originals in a wild state. To suppose them extinct is unnecessary, for others have been similarly changed before our eyes. Colewort, a vegetable that weighs scarcely half an ounce, has been transformed into the cabbage and cauliflower, each weighing many pounds; and a kind of wild parsley, highly disagreeable to the taste, into delicious celery; while the potatoe itself is derived from a small, acrid, bitter root, now growing wild in Chili and other parts of America.

The productive power of knowledge, however, is even more striking in many of the other wealth-creating arts than in agriculture, though it cannot be more clear. Applied to all of these arts, knowledge is, in truth, power; but in our manufactures, the proofs of this maxim are so important, curious, and varied, that we hesitate which to choose.

Let us begin with iron. On this, knowledge and observation have been at work more than 5,000 years; they have led man, age after age, to find in

it one of the most useful substances in nature; and they are still applying it to new purposes every day. The hand of man is not armed with any natural instrument, such as a claw or a beak; but instead, it is admirably fitted for the grasping and using of tools. Of these, the most efficient part is iron; which thus contributes far more to our well-being than silver, or gold, or jewels. But although very abundant in nature, iron is seldom found in a state fit for the smith: it is hidden in various compounds, being mixed sometimes with clay, at other times with lime, or sulphur. In fact, the ore is a substance, from its appearance, much more likely to be used for paving a road, or building a wall, than for making knives and spades. However, admitting that iron were known to exist in a particular stone or ore, how is it to be extracted pure? Brute force will not succeed; the mass is so thoroughly mixed, that were it ground to dust, not a particle of metal would be found, and though we certainly have the blade of a knife in any lump of iron-ore, shape and grind *that* as we may, it will never cut half so well as the shell or bone used by the savage.

To mere labor then the task is hopeless: let us therefore apply our knowledge, and work by fire. But no common fire will be effectual: such on the contrary will only make matters worse, giving us back the material in the less tractable form of slag or dross. An intense fire is necessary, and therefore we must first prepare our fuel: if wood, by burning it to charcoal; if coal, to coke. The fire may then be made sufficiently powerful, especially if we are wise and skilful enough to aid it properly by wind; but there is still mixed with the iron, clay, lime, or the earth of flint, each of which, alone, stubbornly resists our fiercest

fires: how is it to be separated from these? Farther knowledge must clear the way. When lime and either of the other two are mixed in proper quantities, they are found to melt. As the result then of all previous observations, the iron-ore is mixed with limestone and coke or charcoal, and put into a huge furnace of the strongest masonry, lined with fire-bricks, and shaped outside like a pyramid with its top cut off. The fire is kindled at the bottom, and urged to a fierce heat by the blast of a powerful machine. The clay, or earth of flint, then unites with the lime, forming a sort of glass, which floats on the surface, while the iron is fused by the carbon (or *pure* charcoal) of the fuel, and being heavier than the other matter, runs down to the bottom. The triumph of knowledge and skill in this process is then complete: at the appointed time, a workman pierces the sand, which fills an aperture at the foot of the furnace, and the melted iron rushes out like water. It is received into furrows of sand or moulds of clay, and so formed either into pigs, for after-operations, or into water-pipes, wheels for engines, stoves, cauldrons, and a multitude of other articles in daily use. A single furnace will smelt seventy-five tons of iron in a week, or, allowing one ounce to each, enough for the blades of 140 millions of knives, in a year.

This is the first step of the iron-manufacture; but as yet the metal is only *cast* iron, a substance too brittle to withstand the strokes of a hammer, and to be ground to a cutting-edge. It must next therefore be rendered malleable, or such as will soften in the fire, and admit of being hammered into any shape, or united, if in two pieces, by the operation called welding. This quality is given to cast iron by different processes; but in general, the metal is kept melted for a long time in a furnace, and con-

tinually stirred with an iron rake, until the greater part of the carbon is burnt out. It then becomes tough, and being taken from the furnace, is repeatedly beaten with large hammers while hot, or passed between pairs of rollers, until it is changed into *bar-iron*, of which so much use is made in all the arts of life. . . .

Still, however, it is not fit for a knife, or at least for such a one as we require, though to some nations, who do not lack abundance of iron-ore, the smallest portion of it, even in this state, would be invaluable. Sailors tell us, that amongst the people of the islands in the South Pacific, the individual who exchanged with them his most precious article for a rusty nail, or a small piece of iron hoop, was considered a fortunate man. It is asserted, that one person was discovered living in affluence and idleness, on the rent paid him by his neighbours for the use of a single nail, which he had accidentally become possessed of. We, blessed with more knowledge, may, and will have, a knife, not of iron but of steel—a form of the metal that receives a keen edge, neither brittle nor soft.

But the oftener bar-iron is heated and hammered, the softer and more ductile, it becomes; and these effects, as observation tells us, arise from its loss of carbon. To harden it again then, we must restore the carbon ; and in so doing, it appears, that we may give the metal those peculiar qualities which distinguish steel from cast and wrought iron. With this intent, bars of wrought iron are buried in powdered charcoal, and exposed to a red heat in a close vessel, for a longer or shorter time, according to the sort of steel desired. If the heat is too great, or continued too long, the iron will be fused, and converted into *cast* steel, which cannot be welded ; but when

not fused, it may be wrought by the hammer like bar-iron. In either case, however, the metal has acquired that property on which the keenness of the knife depends; the chief difference between the two sorts being, that cast steel takes the keener but more brittle edge. This new property of both is the capacity of being *tempered*. The steel is again made very hot, and then suddenly plunged into water, to remain there until quite cooled. It is thus rendered hard enough to cut iron, but very brittle. In this state, the workman, after brightening the surface, lays it on a plate of hot iron, and exposes it to the fire, until it becomes of that particular color which is the sign of the degree of temper required. It first assumes a straw-color, and as the heat is increased, yellow, brown yellow, light purple, full purple, blue, and finally black, succeed each other. Every shade denotes a peculiar temper; the straw-color, that suited for razors and lancets; the yellow, for penknives; the purples, for various kinds of tools; and the blue, for watch-springs, swords, and other instruments, in which great elasticity is requisite. This process is perhaps second in importance to none which man knows; for it gives him all the instruments by which he moulds every substance in nature to his wishes. A savage will work for twelve months, with fire and sharp stones, to fell a great tree, and shape it into a canoe; while a modern carpenter could accomplish the task in a few days.

In the manufacture of iron we have seen the great use of coal. Nothing in that art can be done without fire, and as coal is the best of all fuel, the iron works of England are invariably carried on in the coal-districts. In other countries, it is true, charcoal is used in great quantities; but the four hundred charcoal furnaces of France, for instance,

perform scarcely a fourth the work of ours (about three hundred) in which coke is burned. Our smelting furnaces alone require four millions of tons yearly, and when to these are added the many millions used in subsequent processes of the iron-manufacture, in the working of other metals, in the fires of steam-engines, in the production of gas, in dyeing, cooking, warming our houses, and other arts of life, we shall have some idea of the enormous quantity of coal consumed. But it could not be consumed, for it could not be procured, did not the iron-works give mining tools, pumps, wheels, rail-roads, and steam-engines, in return for fuel. The coal and iron trades completely depend on each other: without iron, it would be impossible to satisfy our demands for coal, and without coal, those for iron.

But the need of correct and varied knowledge, in addition to all the instruments of mining, was forcibly shown by the failure of an attempt made, a few years ago, to find coal at Bexhill, in Surrey. Misled by the appearance of small portions of coal on the surface, and other uncertain tokens of its existence below, the projectors sank a shaft, builded houses, and constructed machinery on a vast scale, at an expense of £80,000. The project proved completely abortive, as any geologist would have declared beforehand it must prove, knowing, as he does, that sand never contains coal; and also, that the kind of sand on which Bexhill stands, is always separated from the coal strata by other beds, of thickness such as to render all idea of penetrating through them absurd.

From these statements, we may conceive the value of any thing that increases either the ease or certainty of procuring coal. Amongst many inventions which do this, there is one, so beautiful in

itself, and so entirely the gift of science, that it must not be omitted here. Coal mines are often infested with a sort of inflammable vapour, known by the name of fire-damp. When this is mingled in a certain proportion with common air, the mixture will take fire from an ordinary lamp, and explode with awful violence, killing the men and horses, and shooting the contents of the mine through its shaft or entrance, like an enormous piece of artillery. Many attempts had been made to light the mines subject to this fire-damp in such a manner as to avoid kindling it, but none proved successful, until all the knowledge and skill of Sir Humphrey Davy were brought to the task. We are apt to look on flame rather as the cause, than the effect, of its accompanying heat; but his patient researches concerning the nature of both showed the complete dependance of flame on heat; insomuch, that any means which abstract a certain portion of heat from it, must of necessity extinguish the flame. Thus a lamp, having a very small wick, such as a single thread, will not burn in cold weather; and it will be extinguished at any time, if a metallic ball is brought near, or a ring let down over the flame, provided they are cold; if hot, the effect will not follow. On this principle the miners' safety-lamp is constructed. After a long series of experiments, Sir Humphrey Davy placed over the lamp a cage of fine net-work made of wire. The inflammable air enters the cage, and is set on fire as usual, but it cannot pass the tiny bars to kindle that without by reason of their cooling power. For a moment the proper flame of the lamp grows larger, and then, is suddenly extinguished, leaving the cage filled with lambent blue light arising from the burning fire-damp. As the atmosphere returns to its natural state, this

appearance gradually ceases, and the lamp becomes rekindled.

There is not on record a more beautiful instance of philosophic research—philosophic, we mean, as to its conduct—than this. And it was successful because it was philosophic: the safety-lamp was no chance invention; in fact, from beginning to end, chance had no share in the work, Sir Humphrey Davy's attention was directed to the accidents which befel the miner by the Bishop of C———, and thence arose his benevolent question. How may these accidents be prevented? Thus, stimulated by compassion, and aided only by his own bright intellect, which, however, had made him master of all previous observations on the subject, he first searched for, and discovered, by experiment and reasoning, the true causes of the explosion; next, the principle on which it might be prevented; and lastly, he constructed the lamp, which, had his life and labors left nothing else for a memorial, would of itself nobly attest to future ages 'what manner of man he was.'

But setting aside the saving of human life effected by this admirable invention, the consideration of its economical advantages alone will amply serve our purpose. By its use the risk of mining adventure is greatly lessened, and therefore, the premium for insurance has been reduced, which at once renders coal cheaper. Every accident that occurs in mines does, really, increase the total quantity of labour necessary to bring the whole supply of coal to market, by destroying costly machinery, which must be replaced, amongst other mischiefs: and in preventing these accidents, the safety-lamp diminishes this labor, or what is the same thing, renders labor more productive. From any such circumstance, coal becomes cheap-

er, more is then used, it again rises in price, the call is heard in the pits, and they immediately pour forth an increased supply.

In the last example, we saw knowledge in the hands of the philosopher: it no less befriends the humblest artizan. The workman in the granite quarries near Seringapatam separates enormous blocks from the solid rock by the following neat and simple contrivance. Having selected a place in the rock, wherefrom a piece will answer his purpose, he lays bare the surface, and marks out the intended cut by a line, along which a grove is chiselled, about two inches deep. Above this grove, a narrow line of fire is then kindled, and maintained until the rock below is thoroughly heated; on which, a row of men and women, each provided with a vessel of cold water, suddenly sweep off the fire, and pour the water into the heated grove, when the rock splits at once with a clean fracture. Blocks, or rather bars, sometimes six feet square at the ends, and eightty feet long, are detached by this method; which thus effects with ease and expedition what might otherwise be the work of years.

The art of sugar-refining affords us another illustration—a delicate application of chemistry. In this process, the impure sugar is dissolved in water, and the solution, after being clarified, is boiled until all the water flies off, leaving the dry mass pure and crystallized. Now the heat necessary to make the syrup boil, formerly discolored and spoiled part of the sugar, and in some measure often injured the whole. But the science of a late eminent chemist* saved all this excessive waste, simply by directing him to boil the syrup in a vacuum, (or place whence air is withdrawn,)

* Edward Howard, brother of the Duke of Norfolk.

where the low degree of heat quite sufficient to evaporate the water will not in the least burn or discolor the sugar. Large sums of money have been paid to the persons in whom the right was vested, for the privilege of using this new process: a sure indication of its superiority.

That same inflammable vapour, which a few years ago was scarcely known but from its disastrous presence in coal mines, is now pressed into the service of man, and affords him at once the cheapest and most brilliant of artificial lights. Large iron vessels, being partly filled with coal, are brought to a red heat in a furnace, and the smoke thrown off by their contents is collected. This is the gas, mixed with certain other substances, chiefly tar and water, from which it is separated, and then passed through lime-water, and pure water, until washed from all impurity. It is finally conveyed to reservoirs; and thence, by iron pipes laid under ground, is distributed through the streets and houses of whole cities. A less pipe, leading from one of these *mains*, and terminating in a small orifice, with a stop-cock just below it, is the simple apparatus for burning the gas. Nothing more is required than to turn the stop-cock, and apply a light to the mouth, when the gas takes fire, and continues to burn with a steady bright flame, until by again turning the stop-cock, it is cut off, and the flame is extinguished. To save the expense of metallic pipes, air-tight bags have just been invented, in which the gas can be carried from the manufactory to any place where it is required, more easily than a barrel of beer. Four seers of cocoanut oil will burn, though with a wretched light in comparison, about as long as 40 cubic feet of gas: the oil costs a rupee, or 1*s.* 10*d.*; the gas, at a farthing per foot,

which is its full price, only 10*d*. The superiority of its light, and the difference in price, taken together, render gas cheaper than oil or tallow by at least three-fourths of their cost. A permanent reduction in the price of any article shows that a certain quantity of labor produces an increased quantity of that article: the addition in this case is clearly the fruit of our observing the properties of gas, and applying our knowledge of coal, iron, and other materials to good purpose in the making and purifying of it, and in the construction of apparatus, by which it is conveniently distributed and burned.

On the application of chemistry to the arts, we might dwell long, and find ample matter for reflection and wonder. The chemist is continually discovering new agents, which enable us to convert substances, apparently the most useless, into articles of great value, opening up to us every day, sources of wealth and convenience, of which former ages had no idea. Not to mention the impulse which the progress of this science has given to almost every other, what strange and unexpected results has it brought to light in its operation on some of the most common objects. Who for instance would conceive, that *linen rags* are capable of yielding more than their own weight of sugar, by the simple agency of one of the cheapest and most abundant acids?—that *dry bones* are a magazine of food capable of preservation for years, ready to yield up their nutritive matter in the form best fitted to sustain life, on the application of that powerful agent, steam?—that *saw-dust* may be converted into a substance, not unlike bread, and though certainly less palatable, yet not disagreeable, but wholesome, and digestible as well as highly nourishing?—a discovery this which renders famine next to impossible.

All bodily labor consists simply in moving things from one place to another. The husbandman, after moving the earth, moves seed to it, which he first moved from it; the smith moves fuel to the forge, fire to the fuel, and wind and iron to the fire: in either case, the properties of matter complete the work. Yet with his hands alone, man cannot produce very swift, nor very exact, nor very prolonged motion: he therefore invents tools, or machines, rude indeed at first, but such as enable him to construct others, less imperfect, which in their turn serve a similar purpose; and thus, ascending step by step, he at length acquires a command over force almost perfect, in an endless variety of knowledge-made machines, which do his bidding with the utmost swiftness and precision, and with astonishing power. Our own strength is far inferior to that of many other animals: four or five hundred weight is more than a strong man can lift; but from knowing only how to use an inflexible rod, as a lever, the simplest of all machines, he raises ten times that weight with the greatest ease. Let a bar, sufficiently thick, and seventeen feet long, be supported by an edge placed one foot from either end, so as to move freely up and down like the beam of a balance: a pound on the end of the shorter arm will be lifted by the least quantity more than an ounce put on the end of the other. Three such levers being placed so that the long arm of the first shall be moved by the short arm of the second, and the long arm of this by the short arm of the third, a pound at the *end* of the line will move one ton and three quarters placed at the *beginning*. The motion of the greater weight however will be extremely slow, and small in extent; for the pound must be moved through ten feet to lift it even $\frac{1}{3\,4}$th of an inch. If the order of the

whole line be reversed, a ton and three quarters moved through $\frac{1}{8}\frac{1}{4}$th of an inch, will move the pound ten feet.

By the aid of pure mathematics, man has followed out this principle both ways, and constructed other machines,—combinations of the lever in various shapes, such as wheels, pulleys, and rods,—by which, were it not for friction, the quick motion of a small force might be compressed into a slower one of unlimited power; or the slow motion of a great force expanded into a weaker of unlimited swiftness. Yet as the most perfect machine does not *generate* force, (what is gained in power being lost in swiftness, and the converse,) had man gone no further, great exertion of his own would always have been required; but observation having taught him the properties of air and water, his ingenuity has compelled them to relieve him from toil, by acting as first movers in numberless engines which admirably regulate their inexhaustible force. On this principle are constructed wind-mills, water-mills, and the steam-engine.

The knowledge of a simple fact, concerning the pressure of water, led Mr. Bramah to the construction of the wonderful press that bears his name. There is little of what is generally called machinery employed in this: it is merely a flat iron vessel, in the cover of which two hollow cylindars are inserted, one being much larger in the bore than the other; the whole containing sufficient water to fill the vessel itself, and rise into the cylinders.—Supposing the less cylinder to the greater, as one to a thousand, a pressure on the water in the less equal to 500 pounds, will raise a weight on that in the other, of 200 tons,—or a cube of iron nearly ten feet in the edge.

Of the mighty steam-engine, it is impossible to think without admiration and gratitude to the men

whose knowledge and patience have made it what it is—a thing to appearance almost intelligent. It regulates with perfect accuracy the number of its strokes in a given time, and counts or records them;—it regulates the quantity of steam admitted to work;—the briskness of the fire;—the supply of water to the boiler;—the supply of coals to the fire;—it oils its own joints;—it takes out any air which may accidentally enter into parts that should be empty:—and when anything goes wrong that it cannot of itself rectify, it warns its attendants by ringing a bell:—yet with all these talents and qualities, and though it may have the power of 600 horses, it is obedient to the hand of a child;—its food is coal, wood, or charcoal;—it consumes none while idle; it never tires, and wants no sleep;—it is not subject to disease, when well made at first;—and only refuses to work when worn out with age;—it is equally active in all climates, and will do all kinds of work;—it is a water-pumper, a miner, a sailor, a spinner, weaver, a blacksmith, a miller, and so on: and a small engine may now be seen dragging after it on a rail-road, a regiment of soldiers, or a hundred tons of merchandise, at a speed of 20 or 30 miles an hour*. It was calculated in 1820, that the steam-engines of England, worked by 30.000 men, would raise the materials of the great pyramid of Egypt from the quarry to their present elevation in 18 hours. This mass of stone, which is 700 feet in the side of the base, and 500 in perpendicular height, covers eleven acres of ground: and the Greek historian tells us, it employed in the building 100,000 men, for 20 years. Since 1820, many more steam-engines

* Arnot's Physics, vol. i.

have been erected, and at present, in England alone, they must do the work of more than three millions of men.

As a last example, we shall notice the effects of knowledge on the cotton manufactures of England; which owe their unrivalled excellence chiefly to the machines invented by a once humble individual—Richard Arkwright, the barber. The raw material of every species of cotton cloth, from the finest net, or muslin, to the canvas, which, as the sails of a ship, resists the most violent storm, is the downy nest provided by nature for the seeds of a tropical plant, now assiduously cultivated in the East and West Indies, and southern parts of the United States. The knowledge applied to its culture must not be overlooked, still less that lavished on the art of navigation, by which it is conveyed from place to place,—an art founded on the sublime doctrines of astronomy, and the most delicate measurements of time and space. But after all this, the complex machinery used in the cleaning, carding, spinning, and weaving of cotton, employs a new and immense stock, the fruit gathered from centuries of experience. All the art of working in metal, and consummate skill in mechanics, are necessary at every step. How near to perfection this knowledge-made machinery approaches, may be inferred from the fact, that a single pound of cotton is drawn out into a beautifully round and even thread 150 *miles long;* which though scarcely larger than a spider's thread, is passed through the strong flame of a lamp with such rapidity that while its loose fibres are burned off, the thread itself is saved from being so much as scorched. During this process, not the slightest motion can be discerned in the wheels or thread, and it appears a miracle that the latter is not consumed. After

the cotton becomes cloth, to bleach, dye, and print it, other sets of machines are used, and the whole science of chemistry is summoned to aid the work.

Cotton goods were for ages brought into Europe from India, as articles of the greatest price and luxury. Although they were cheaper than silk, (which was sold for its weight in pure gold,) still they were only to be purchased by the most opulent. If a Grecian or Roman lady could now awake from the tomb, her astonishmeut would be extreme, at seeing a simple country-girl wearing a dress of printed cotton. In 1765, the cotton-manufacture was very limited in England ; none was exported ; and cotton stockings were nearly as dear as silk. In 1767, Hargreaves invented the spinning jenny ; and in 1769, Mr. (afterwards Sir) Richard Arkwright, his power-spinning-frame. In 1779, the mule, a still more efficient spinning machine, was invented ; and from that time to the present, in no branch of this art, has the step of improvement ever flagged. The consequences are, that one man now performs the labor of a hundred and fifty ; cotton cloth is reduced to one-tenth of its former price ; and yet the value of the whole quantity manufactured in a year, instead of being about £200,000, is at least £36,000,000. Fifty years ago, forty-two millions of people must have been employed to manufacture this ; and their wages, at the low rate of one shilling each, per day, would be £700,000,000 ; more than all the coin in the world would pay.

The invention of Arkwright—the substitution of rollers for fingers—changed the commerce of the world. Cotton cloths,—though still bearing their Indian names, of muslins, calicoes, and dimities,—are no longer imported from India. The

machinery by which a man, woman, or even a child, could spin 200 threads, where one was spun before, rendered English cotton goods much cheaper than those of India, though human labor is there worth very little. But the fabric was also infinitely improved. The thread produced by the machines is almost a perfect cylinder; while the hand of the spinner is unequal in its work, sometimes making the thread thick, and sometimes thin. Now as its strength is no more than the strength of its weakest part, when such yarn is woven, the cloth, being uneven in texture, wears unequally, and great waste results from the weaker parts, soon wearing out. These circumstances,—the diminution of price, and improvement of quality,—render it impossible for the cheap labor of India to stand in the market against the machinery of Europe. The trade of India in cotton goods is gone for ever. Not even the caprices of fashion can find any excuse for preferring them; the others are cheaper and better. Indeed, the English cotton-manufacture, as it exists in the present day, is the great triumph of human ingenuity, and this is the offspring of human knowledge and labor. The raw material is brought from the people who grow it by a voyage round half the globe and back;—it is manufactured into articles which were formerly purchased from them ready-made:—and these articles being taken to their own markets, burthened with the cost of transport for 14,000 miles, and also with state-taxes levied on them in various ways, are offered to those very people, cheaper than they can make them at home, and are therefore purchased with eagerness.

We might multiply instances of this kind to any extent. The cotton machines do not stand

alone; others, scarcely inferior, are used in the fabrication of silk and wool, of the metals, of wood, and even in agriculture. As the result of all, it is asserted, that the manufacturing power of England may be fairly computed at four times that of the whole world, except Europe; and that the average productive power of the English is as 1000 to 1, compared with the average productive power of mankind at large. But to prolong this subject would be superfluous: the reader has only to cast his eyes around, and he will find that every operation of skill, from the making and using of a needle, to the making and using of the most curious instrument of science, or powerful machine for saving labor, depends on a close observation of the laws of nature. Rail-roads, canals, and ships, the inestimable arts of navigation and printing, which having been established by knowledge, are the most efficient agents of its diffusion and increase, together with a hundred other inventions, little less beneficial to mankind, are the fruits of our additions to knowledge inherited by us from our fathers; and all must, in like manner, be the means, hereafter, of augmenting the productive power of our children's labor.

CHAPTER III.

NATURAL CAUSES FOR THE PROGRESS OF MANKIND IN KNOWLEDGE.

Uniformity of the progress of knowledge and civilization.—Increase of population, a cause of the increase of knowledge.—It furnishes the motives and the means of improvement.—Man grows wiser as the world grows older.—Education should be encouraged and purchased by the Hindus themselves.—Educated Hindus reluctant to apply their knowledge to practice.—In England speculation and practice go together.—Advantages of free and rapid communication between different countries.—The Press.

When we call to mind the uniformity of the progress of civilization, in its earlier stages, man having, at least according to profane history, successively passed through the states of a naked savage, living on wild fruits, of a hunter feeding on flesh, of a shepherd breeding and rearing the animals he found it difficult to take in the chase, and lastly, of an agriculturist raising vegetable food for himself, and the birds and beasts destined for his own use; acquiring successively, therefore, in all places, the knowledge which enables him first to kill wild animals, next to domesticate them, and finally, to cultivate the ground; when, we say, this *uniformity* in the progress of our race, is distinctly apprehended, we can hardly fail to conjecture, that it must be the result of some general natural law. Ascending higher in the scale of civilization, and observing manufactures, and consequently the varied knowledge which is necessary to them, succeeding agricul-

ture, and commerce, with the arts of ship-building and navigation, amongst every people that live near the ocean, succeeding to manufactures; and observing also, that if this course of prosperity be not arrested by tyranny and war, the extension of manufactures and commerce, necessarily begets extended cultivation, stimulating to new discoveries in draining, manuring, and sowing, and to the introduction of new crops, which also in turn call forth new manufacturing skill to increase the commerce of the world;—we are compelled to believe, that this uniform progress is the result of some permanent, natural law.

Although it is impossible to point out the particular circumstances which led to each step of the gradual improvement thus briefly sketched, there can be little doubt that, in the main, they spring from the natural necessity to labor, which the ever active tendency of mankind to multiply renders a constant necessity. Thus the spontaneous productions of the earth proving insufficient, hunger sharpened the ingenuity of the savage, and he became a hunter or fisher, according as his dwelling place was the inland plain, or the shore of the ocean. Men still continuing to multiply, these resources were also found inadequate, and the same necessity led to further improvements,—first, to a rude agriculture, then to rude manufactures, and afterwards, to refined cultivation, and the wonderful inventions of modern times. This principle, necessity, acts now, as it acted formerly: the progress of our race is ever in one direction. The stimulus commonly present to the mind of an inventor, is the natural and strong hope of 'rising in the world,' as the reward of his invention. But were not population constantly on the increase, it would in time become useless, and

therefore profitless, to invent; there could be no increase of wants to supply, and the same labor that provided for the consumption of the past year, would be more than sufficient to provide for that of the next.

Doctor Smith remarks, that until the price of cattle rises high enough to render it profitable to cultivate land for the sake of feeding them, it seems hardly possible to cultivate even the best land completely. The want of manure, and of a use for various green crops, which are grown when nothing else will grow, accounts for this. But a permanent rise in the price of cattle can only be the result of an increase in the number of those who have produce of their own to give for them. Had not the people increased therefore, had not the face of the country become studded with cities, and towns, and villages, the turning of fallows to account would never have been considered an important object, nor would the proper variation of the crops ever have been discovered. Thus all the additional power manifested by the soil in our day and generation, to which nearly one-third of its whole produce is owing, must still have remained dormant and unknown. It is the same in other cases. Necessity is the mother of invention; and the continual pressure of necessity can only be accounted for by referring it to the continual increase of people. Man is constitutionally indolent, and there seems to be no motive, except the desire of providing for this increase, which could induce some, with so much pains and labor, to gather and record knowledge, or others, jealous of superiority in any shape, to look on those who are eminent in that work as the greatest benefactors of their species, and as deserving of the highest honors and rewards.

But this same increase of population, which begets want, and so makes the collection and preservation of knowledge imperative, is in itself a direct increase in the number of instruments—in the powers, which operate to that end. The great, and indeed only source of our knowledge of nature, and its laws, is experience: not the experience of one man, nor of one generation, but the successive experience of all mankind, in all ages, handed downwards by tradition, or recorded in books. Now, as the proverb says, Two heads are better than one: and for this simple reason, the increase of knowledge will be greater, as population becomes greater. There will be more to see, more to hear, more to contrive; and it is plain, that the chances of obtaining valuable observations increase as the number of observers increases. For a similar reason, man grows wiser as the world grows older. Owing to its value in supplying our wants, knowledge is carefully transmitted from one generation to another, and as the rule, the last is wiser than that which precedes it; for, in most cases, but especially where printing is known, men adding something of their own to what was bequeathed by their forefathers, in turn leave the whole to their children. Thus the sum of knowledge is continually increased; with the departure of each generation, there have been more eyes to see, more hands to practise, and more minds have treasured up the results. As time passes then, and men multiply, it is evident, that there is, at least, a tendency—a constant, natural, and necessary tendency—towards an augmentation of their knowledge, and consequently of their productive power.

To the increase of population, therefore, we

must ascribe two consequences ; and they are the chief causes of man's progress in knowledge :— the increased wants of society, which furnish the motives, and the increased numbers, the means of improvement. This view of the subject seems amply confirmed by experience. It was in the populous states of Egypt, Greece, and Rome, and not amongst the wandering tribes of the desert, that the arts, both of creating wealth and adorning existence, were carried, in the ancient world, to that singular degree of perfection which men even yet idolize and emulate. It was in the populous cities of Holland and Germany, that learning and the arts again sprang up in the middle ages: and at no former period was England so populous as within the last 100 years, and in none was science ever so greatly extended. The discovery of America and New Holland, and their colonization by the surplus population of Europe, in creating fresh civilized communities, have given a stimulus to the old, which is felt throughout the world. And these events, besides increasing population, and in that the number of observers, have also enlarged the sphere of observation itself, and given far greater exactness to the recorded experience of mankind, than was ever before attainable by the greatest expenditure of time and labor. All the information, which can possibly be procured by the most active and enlightened travellers, must fall infinitely short, both in accuracy and extent, of what is to be obtained by individuals equally active and enlightened, whose home is on the spot.

There are many other natural circumstances which accelerate the progress of knowledge, or determine its kind. Such are *diversity of bodily and mental constitution*, for without doubt, there

is this diversity, and it influences the species and degree of knowledge acquired;—*peculiarities of geographical position*, for as people inhabit an inland or maritime, a cold or hot country, the sort of knowledge they acquire will be different;—*language*, for this is the instrument of communicating thought, and according to its perfection, the acquisition, and diffusion of knowledge, will be easy and correct. To examine, with any thing like success, all, or the most important, even of the known circumstances comprehended in this class, would occupy many such volumes as this, and demand talents and learning rarely found. We must omit them, as well as a multiplicity of social regulations, which bear directly on the question in hand. The increase of population is adverted to, not only because this is the chief of the whole class, but because we shall have occasion to consider it hereafter, in a less attractive point of view. It appears to be at once the source of some of the greatest blessings, and some of the greatest evils, that fall to the lot of humanity. There are however a few other points, which must not pass altogether unnoticed.

As the labor of numbers is so eminently calculated to extend the boundaries of human knowledge, how pernicious to the welfare of a country must be all customs and prejudices which debar any of its members from the freest pursuit of knowledge. Amongst the poor and low-born, who in every society constitute the most numerous classes, there are certain individuals whom their Creator has endowed with the highest order of intellectual powers—powers which, like dry fuel waiting for the spark, linger in obscurity only because the light of knowledge has never roused them into life and action.

How much the mental character of a people must lose in dignity, when its social ordinances proclaim that knowledge is a pursuit criminal to all but a certain caste, insignificant as to numbers, and in nowise distinguished by intellectual pre-eminence, can be estimated correctly, only by considering this impudent doctrine in connexion with facts such as those adduced in the preceding chapter. The progress of a community in wealth and refinement materially depends on the facilities afforded to individuals who are favourites of nature, though tenants of a mean station, to burst through the night in which penury hides their genius, and become, not merely the architects of fortunes and fame for themselves, but the authors of universal benefits to the society—to the world—and to every succeeding age. The highest interest of communities therefore demands, that the avenues of learning be thrown wide open. None are so base as to be incapable of improvement by knowledge; but were this fact otherwise, less than the free access of all will not secure admission to the excellent few. No human penetration can select these from the mass; wherefore all must be tried by the unerring touchstone of opportunity.

And next to the importance of rendering knowledge accessible to the people, is that of permitting and encouraging them to use it as they please. Every restraint on human enterprise is injurious, the laws of morality excepted. Where thought and action are at liberty, how often do we see men stepping from one class, or occupation, to another. The art of printing was invented by a priest; the telescope, by a watch-maker; gunpowder, by a monk; the miner's safety lamp, by a chemist; the art of sugar-refining, by a peer; the cotton-spinning machine, by a barber; the light-

ning conductor, by a printer, ambassador, and legislator. Herschel was once a musician; Cook, a shop-keeper's apprentice; Handel, a student of law, though an unwilling one; Hogarth, a silversmith; Cuvier, a rejected priest and a student of law; Dolland, a silk-weaver for years; John Hunter, a cabinet-maker; De Foe, the admirable De Foe, a horse-dealer and a brick-maker. Where would be the arts in Europe, had all such changes been discouraged—nay, had they not been rendered the inviting paths to opulence and distinction!

The object of these arguments and illustrations can scarcely be mistaken. We have only to look around, and the disastrous effects of thrusting a people from the gates of knowledge, and crushing their enterprise beneath the intolerable burthen of public odium, and the denunciations of religion, are every where apparent.

Still there is no reason for despair. In the actual state of Hindusthan, we descry the promise of brighter days. The press, and the beginning of education, have already inflicted incurable wounds on a tyranny 3000 years old. To education, especially, the earnest attention of every well-wisher to his country ought to be directed. Something has been done, it is true, but much more remains undone. Before this nation can lift her abject head, much greater exertions must be made, either by natives or by foreigners. So far as pointing out the way of improvement, the English seem impelled by a sense of duty, and not less by inclination, to lend their aid; but the Hindus must help themselves. The labors of a few Englishmen, zealous and disinterested as they are, and backed by the benevolent efforts of many in their native country, can

do little more than kindle the flame; it must be nourished and spread by those who are to walk by its light. If the proofs of the benefits of knowledge, adduced in the last chapter, are at all convincing, the reader cannot deny, that where knowledge is on one side, and wealth on the other, a fair exchange should take place; nor that he who gives wealth for knowledge should think himself richer than before. Until the Hindus have more fully learned this—until they become willing to buy knowledge, and to pay its just price, instead of resting satisfied with what, owing to the compassion of others, is to be obtained for nothing—they will give little evidence of past improvement, and little promise for the future. They should consider *free* education as the exclusive right of those who cannot afford its cost: if any, who can, share in its advantages, they are bound in justice to contribute to its support. Perhaps it is a true, as well as a common remark, that education is held in less esteem amongst the Hindus, because it is generally a gift. This is a sad mistake of theirs; and if persisted in, it will discover to them, that men soon grow tired of helping those who will not help themselves*. The best friend of native improvement desires most earnestly to see education promoted and bestowed, as well as received, by the natives themselves; and he desires this, not with the selfish hope of saving his time, or labor, or money,—these would be still given, and even more cheerfully,—but, because, if the Hindus neglect to use those means

* An instance of this occurred recently. Several members of the School Book Society withdrew their subscriptions: and the reason, assigned in the public prints of the day, was, *disgust at the ill-timed parsimony of the Hindus themselves.*

which they do possess, it is a strong proof that the genuine thirst after knowledge does not in fact exist; and a proof, in the face of which he cannot reasonably expect any great success from his efforts.

On the rich lies a double duty; not only the duty of providing for the education of their own children, but of contributing freely to place education within reach of the poor. If they would have their children maintain their expected rank in society, they must educate them with more care, and at greater expense: the poor are treading close on their heels. If they would obtain honor for themselves, let them diffuse education amongst their countrymen, and so seek it at the hands of wise men, instead of fools. If they would improve their estates, blending profit with the luxury of doing good, let them educate their tenants. They dissipate heaps of wealth in the celebration of festivals and marriages: on these occasions their hospitality is profusion itself. Surely those who profess to know the worth of education, if unable to command other resources, might retrench something from these expenses for its support; and that with infinite benefit, both to themselves and to the present recipients of their bounty. But, in truth, they seem to imagine, that money appropriated to education is spent—utterly consumed—lost: they do not look forward to the glorious results. Of the nautches, the viands, the music, the lights, and the decorations, it is indeed true, that once gone, they are gone for ever. On the contrary, education once established, perpetuates itself; it is a fountain which we are only called upon to unlock. The stream, though life and health to all who are nigh, from the moment when it struggles into light, is, at first, only as a drop to

the deep waters below; but it is the forerunner and token of copious floods, that will not cease to gush forth, until the trickling rill becomes a mighty river, swelling and rolling through the dry places, and causing them to abound for ever with the fair fruits of knowledge and truth. This generation must be content to view their work in education as the best heritage of their children. They, we firmly believe, will see its full benefits and rejoice; —when the morals are purified, the understanding enlightened, the character raised;—when the resources of this rich country are developed, and its wealth increased. Indeed, looking solely to profit, we may confidently predict, that every bag of gold expended in the promotion of education, will be

The fruitful mother of a hundred more.

Before the Hindus can hope for the honor of adding any thing to the general stock of knowledge, they have before them a long course of preparation, which must be trodden carefully, step by step. There is not at present, it is certain, one, amongst all the millions in Bengal, who has proceeded far enough in science to start with the rest of the world; not one who knows enough of what has been done, to enable him to see what more there is to do. Small acquirements amongst themselves, they hold in preposterous estimation; and so they will, for want of the true scale of judgment, until they set more vigorously to the great work of education. It is this alone that can raise them to the level of scientific Europeans, and enable them to pay their debts to the science of others with discoveries of their own. It is this, that if properly conducted, will restrain the fluttering curiosity which now obstructs their attainment of eminence in any thing; and that will give to

their character, perseverance and stability, in which it is generally considered to be deficient.

But though the Hindus cannot yet hope to benefit the world by discoveries in science, they may apply what they learn to their own use. If old in other countries, it is new here, and may admit of many new applications. Nay, much of it must be applied before its value can be known. Science, though, even as a mere matter of speculation, capable in some degree of elevating the character, in order to increase the necessaries and luxuries of mankind, must be applied. To benefit their fellow-creatures by their knowledge it is necessary for men to descend from speculation to practice. The man of science, though immured in his closet, must keep his eye fixed on the difficulties of the artificer; and some, entirely forsaking the pursuit of further knowledge, must devote themselves wholly to the practice of what they have learned. In this country, those who have acquired knowledge rest contented, and seldom think of reducing it to practice. The construction of a bridge, a ship, or a canal is out of their power; the science may not be wanting so much as the art. It cannot be questioned, that educated Hindus in general are very reluctant to make themselves practically useful. They will dabble in newspapers and magazines, in poetry and literature, in every shape, but they will not set their hands to work. Perhaps the national disposition,—a fondness for contemplation, rather than action,—may partly account for the reluctance, and old lingering prejudices of caste partly. Reason, reflection, and interest will no doubt at length conquer it: and it cannot be conquered too soon. Besides affording other advantages, nothing will so faithfully discover errors and deficiencies

in the mental furniture, and render knowledge so precise and trust-worthy, as the application of it to practice.

Trade and manufactures were once thought mean occupations even in England; but none think them such now, excepting perhaps the frivolous fool of fashion. They are the roads to affluence, and other things being equal, the rich man is the most respected man, in spite of all that severe reason may urge to the contrary; though even reason itself declares, that those, who, instead of inheriting a fortune, have struck out one for themselves, do merit greater respect on that account. No path to affluence is disgraceful, except that forbidden by morality. In England, this is fully admitted by all men of sense; the legislator or magistrate is not less honored by them, though he may be a ship-builder, a banker, a clothier, or a shop-keeper. And as there is no formal and broad distinction between the manufacturer and the gentleman, so neither is there any between the manufacturer and the man of science. Both characters are often joined, as in the cases of Watt, Brindlay, Woollaston, Dolland, and a host beside. In fact there is nothing to wish for on this score. If Speculation is poring and dreaming in the closet, Practice is awake and doing. Philosophy may build her schemes up to the third heaven, but unless she lays their foundation on the rock, Practice, with wholesome severity, drags her back to firm ground; or else the soundness of a new theory is proved, Philosophy is supported by Practice herself, and the last seal is thus set to truth.

If the wealthy and influential amongst the Hindus encourage popular education, and so follow an example set by the most eminent men of modern times, there is no doubt that knowledge

will soon find her hands in this country also. A large class of persons will seek knowledge solely for the sake of its practical advantages ; and from them is it, that we must expect the improvement of agriculture, the construction of machines, the discovery of new materials and new modes of using the old, which are so much required. Intelligent workmen are amongst the chief causes that have made England what she is. Mons. Bergery, a native of our ancient rival, France, in a public address to an assembly of French workmen, adverts to this point. After eulogizing British industry and skill, and setting forth the wealth and power they have begotten, he proceeds :—" England increases thus, [in power,] because there the thirst after practical knowledge is extreme ; because there its light has been diffused amongst the most simple workmen. These workmen not only attend courses of lectures, but they assemble together in classes, where one of the number reads aloud instructive dissertations ; they have also libraries, and they are provided with periodical works, which explain to them the processes of their trades, the nature of their machines, and every thing belonging to *other* professions, which may render them more skilful in their own*. On this account, nothing amongst us can give any idea of the rapidity, the economy, the perfection, that the English have introduced into their manufactures." Mons. Bergery is too exclusive in ascribing the superiority of the English manufactures to Mechanics' Institutions ; but still there is no doubt, that the enlightenment of the workmen, which many circumstances have conspired to promote, is one of the chief causes of that superiority.

Little however could be done in education,

* Mechanics' Institutions are the Societies referred to.

especially in popular education, without the assistance of the Press: the cost of books alone would be an insuperable bar. A book, that may now be bought for 30 pence, formerly cost as many pounds. But owing to the great invention, Printing, some knowledge is brought within reach of the poorest, and abundance within that of men possessing only moderate fortunes. Such too is the rapidity and ease of communication between distant places, arising from the same cause, that a discovery in any country is made known to all quarters of the globe in a few months; numbers of minds are set to work, and new improvements immediately follow. The application of chlorine, a kind of gas, to the art of dyeing, was completed in this way. Scheele, a celebrated Swedish chemist, first remarked the bleaching power of chlorine. Berthollet, in France, first suggested its probable utility in the arts, and afterwards applied it to the cotton manufacture; Mr. Watt, it is said, first introduced that practice into England; and Mr. Tennant, some time after, united chlorine with powdered lime, one of the greatest improvements in bleaching that was ever made. Chlorine, though itself a deadly poison if inhaled, has lately been found to possess the power of destroying contagious effluvia in the air, and it is extensively used for that purpose*. Reciprocal benefits, such as these, are the objects of those peaceful alliances amongst nations, which are characteristic of modern times. Numerous associations of individuals, belonging to various countries, have been formed to prosecute, with their united strength, particular branches of science. Monthly and quarterly jour-

* This is another example, which illustrate the influence of numbers on knowledge: what one head cannot complete many do.

nals, of which almost every nation in Europe produces several, circulate abstracts of the most important researches of the day, and place the observers of all countries on a footing of perfect intimacy with each other's objects, measures, difficulties, and success.

Another circumstance, from which we may anticipate immense advantage to the future, is, that owing to this wide diffusion of knowledge it seems almost impossible for any thing to be lost; men will never have to go over the same ground again. Should England fall from her high place amongst the nations, or dark ages again overshadow even all Europe, the knowledge of the old world will be safe in some of its newer seats. America, New Holland, Africa, the Islands of the South Sea, may each have to run a glorious career of civilization. The English language, than which none has ever been spoken, better fitted to be the language of science, bids fair to live on the tongues of millions of enlightened men, until the destruction of the world itself. Amidst the ruin of the great empires of antiquity, much of their knowledge perished; but henceforward, the starting-place of each generation will be the last vantage-ground gained by the preceding one. England at present leads the van of civilization throughout the world: the press, and with that, the mind, has been less shackled in England than in any other country; and it is seen universally, that where the people are free to inquire, knowledge and wealth are certain results. The blessings of a free press may be justly estimated as second only to those of speech itself. In the press then, together with education, we have the instruments for raising the Hindu character and condition, already prepared and tried: our business now is to use them.

CHAPTER IV.

DIVISION OF LABOR: ITS EFFECTS; ITS CAUSES; ITS LIMITS.

Division of Labor in the manufacture of pins.—Of woollen cloth.—In the printing of the Times Newspaper.—Is almost unknown amongst savages.—Examples from the narrative of Tanner.—Division of labor increases the dexterity of workmen.—Saves time.—Leads to the invention of machines.—Is practised by scholars and men of science.—Its result is a powerful *union* of forces.—Its advantages are not engrossed by the rich; but shared by all.—Its original cause is the diversity of natural abilities amongst men.—It is always practised with a view to exchange.—Is not limited by the nature of employments; but by the extent of the market.—Influence of population on this.—Of improvement in the means of communication.—Division of labor in Bengal.

In the making of that little article of European ladies' dress, the pin, eighteen different workmen are employed. One man draws out the wire; another straightens it; a third cuts it into pieces of a proper length; a fourth grinds one end to a point; a fifth prepares the other to receive the head; to make the head requires two or three distinct operators; to fasten it on is a peculiar business; to whiten the pins is another: it is even a separate trade to stick them into the paper, and this important business of pin-making is thus divided into eighteen distinct operations, which are frequently performed by eighteen different persons. "I have seen," says Doctor Smith, "a small manufactory of this kind; where only ten men were employed, and where some of them consequently performed two or three operations. But though they were very poor, and therefore but indifferently provided with the necessary machinery, they could, when they exerted them-

selves, make among them above twelve pounds of pins in a day. There are in a pound upwards of 4,000 pins of a middling size. Those ten persons, therefore, could make among them upwards of 48,000 pins in a day. Each person therefore, making a tenth part of 48,000, might be considered as making 4,800 pins in a day."

Since this was written, many improvements in the art have been made. It is said, that at present, the share of a London pin-maker amounts to eight or nine thousand pins daily; almost double the quantity assigned to a workman by Doctor Smith. Now if each person wrought separately, finishing a pin from beginning to end himself, he could not, with his utmost exertions, make twenty. perhaps scarcely one in a day; that is, certainly not the four hundredth part, perhaps not the eight thousandth part of the quantity he is rendered capable of making by a proper division and appropriation of the different operations. This is an example of division of labor, and its advantages.

It appears probable, however, that an ingenious workman, at a great expense of time and labor, could make a pin without assistance; but in many other crafts, it is quite impossible for any one workman to perform all the operations. The manufacture of woollen cloth is one instance, amongst many that might be adduced. Every fleece is composed of three or four kinds of wool, very different in quality. Sometimes these are separated, ready for the manufacturer; if not, to sort the wool, as it is called, is his first operation. From long practice, workmen become capable of distinguishing different degrees of fineness in portions of wool that to a common observer would appear perfectly uniform. The *sorter* carefully examines every fleece, separating

each quality from the others, and putting the parts of similar quality taken from all the fleeces together. Leaving the rest, and following one of the finer sorts, the next operation is that of cleansing it from the grease; for which purpose it goes to the *scourer*, and is boiled in a mixture of water and urine. Sometimes it is dyed in this state, sometimes not until it becomes cloth. However, in either case, after being dried, it is taken by women called *pickers*, who carefully seek for, and take out every thing not wool, especially the pitch used in marking the sheep; and also locks of wool coarser than the rest. The wool is then sprinkled with oil, and delivered to the *scribblers*, who superintend an engine, where it is passed between rollers covered with innumerable little teeth of fine wire, until every lock is pulled to pieces, and the whole becomes a uniform, downy mass. This is at least the work of two persons; one, called a *feeder*, puts the wool into the engine, and another receives it on the opposite side. It is now fit for the *slubber*, a workman that, assisted by children, draws it out into a large, soft, untwisted thread, by means of a machine. The *spinner* takes this large thread, and by another machine, called a spinning jenny, or mule, something like those used in the cotton-manufacture, draws it out further, into a fine, hard twisted yarn—the warp,—or into a softer and larger thread—the woof. Several persons are employed, besides the principal spinner, in uniting the threads again, when they break during this operation. The warp having been dipped into a thin solution of glue in water, by the *sizer*, and dried, is then given to the *weaver*, together with sufficient woof. Both being usually in hanks, or skeins, his children are the *spoolers;* they wind off the yarn on small wooden or

iron spindles. It is then woven into cloth. The cloth is cleansed by the scourer, and given to the *burler*, who laying it over a board, scrapes the surface with an iron tool made to take off all knots and ends: and afterwards picks out every thread misplaced by the weaver, or larger than the rest. The cloth is next saturated with soap and water, and pounded with a heavy wooden hammer, moved by steam, or water, until it shrinks and becomes firm and close in texture. This is the business of the *millman*. It is next scratched on the surface by a swiftly revolving cylinder, covered with a dried, prickly plant, called a teazle, or with fine wire-teeth, until the nap or pile is raised on it: the machines are called gigs, the workmen *dressers*. It then perhaps receives its colour from the art of the *dyer*; its surface is smoothed again by the dresser; it is dryed, and sent to the *cutter*. Under his care, the pile on the surface is cropped with large shears, or with sharp knives placed in a spiral form around a cylinder. This cylinder revolves with great rapidity, and the cloth is brought near enough to be cropped on the surface; yet it is never cut, unless from inattention on the part of the workman. The operation is one of great delicacy, and from it, in a great measure, the cloth acquires its fine, smooth, glossy face. There are several other operations to be performed before the article is fit for sale. It is freed from hairs and lint, by the *spilers*, mended where broken by the *drawers*, pressed between paper and hot plates by the *pressmen*, and finally, made up into a proper form, for carriage to the retailer, by the *packers*. Some of the *operations* here enumerated are again subdivided into two or three; and on the whole, the material, between the fleece and the cloth, cannot pass through less than from thirty to forty hands. In some large

manufactories, several persons are employed solely in numbering the pieces of cloth at the ends, with needles and thread.

As to this manufacture, it would be useless to talk of what one person, working alone, could do; ten lives would be spent in learning the uses of the various machines. Unless division of labor existed, then, and that to a great extent, we could not have cloth, at least such cloth as we are now supplied with, at all. Were any made, it would be far inferior in quality to what is worn by the poorest people, and yet so dear as to be attainable only by the richest.

The establishment for printing the Times newspaper is an example, on a large scale, of a manufactory in which the division of labor, both mental and bodily, is admirably illustrated. It is scarcely imagined by the thousands who read that paper in various parts of the globe, what a scene of organized activity the factory presents during the whole night, or what a quantity of talent and mechanical skill is put in action for their amusement and information. Nearly 100 persons are employed in this establishment; and during the sessions of Parliament, at least 12 reporters are constantly attending the Houses of Commons and Lords; each in his turn, after about an hour's work, retiring to translate into ordinary writing the speech he has just heard and noted in short-hand. In the mean time, 50 compositors are constantly at work, some of whom have already set up the beginning, while others are committing to type the yet undried manuscript of the continuation of a speech whose middle portion is travelling to the office in the pocket of the hasty reporter, and whose eloquent conclusion is perhaps at that very moment making the walls of St. Stephen's vibrate

with the applause of its hearers. These congregated types, as fast as they are composed, are passed, in portions, to other hands; till at last the scattered fragments of the debate, forming, when united with the ordinary matter, eight and forty columns, re-appear in regular order on the platform of the printing press. The hand of man is now too slow for the demands of his curiosity; but the power of steam comes to his assistance. Ink is rapidly supplied to the moving types by the most perfect mechanism; four attendants incessantly introduce the edges of large sheets of white paper to the junctions of two great rollers, which seem to devour them with unsated appetite; other rollers convey them to the types, already inked, and having brought them successively into rapid contact, deliver them to four other assistants, completely printed by the almost momentary touch. Thus in one hour 4000 sheets of paper are printed on one side, and an impression of 12,000 copies from above 300,000 movable pieces of metal, is produced for the public in *six hours**.

Now amongst savages, division of labor is not practised, except to a very trifling extent: each savage makes nearly every thing that he uses, for himself. As to cloth, he has none: the knowledge required to make it, is more than all he possesses to save himself from perishing. Taking however his most valuable article, perhaps his bow; he cuts the wood, twists the string, shapes the arrow, and heads it with a sharp flint, or a bone, all himself. He also hews the timber, and builds his own hut; gathers reeds, and weaves his own, and his children's, mats. If he is a fisher, as well as a hunter, which is often the case, he shapes and hollows his own canoe, twists his own lines,

* Babbage's Economy of Manufactures, pp. 216—218.

makes his own nets, and when food is procured, he, or perhaps his wife, cooks it.

There has been lately published, in America, a most curious and authentic record of the ongoings of savage life, which amply confirms this statement. It is a narrative of the adventures of John Tanner, who was for thirty years a captive amongst the Indians in the interior of North America. Many passages in this narrative show the almost total absence of division of labor amongst these people. In one place he says, "I had no mats for a lodge, and therefore had to build one of poles and long grass. I dressed more skins, made my own mocassins and leggings, and those for my children; cut wood, and cooked for myself and family, made my own snow shoes, and so on. The attention and labor I had to bestow about home sometimes kept me from hunting, and I was occasionally distressed for want of provisions. I busied myself about my lodge in the night time. When it was sufficiently light, I would bring wood, and attend to other things without; at other times, I was repairing my own or my children's clothes. For nearly all the winter I slept but a very small part of the night." Tanner also mentions the case of a man who was wounded in the arm by the accidental discharge of a gun. As there was little surgical skill amongst the community, because no one could devote himself to the business of surgery, the Indian, as the only chance of saving his life, resolved to cut off his own arm; "and taking two knives, one of which he had hacked into a sort of saw, he, with his right hand and arm, cut of his left, and threw it from him as far as he could."—Whenever there have been opportunities of observing the habits of savage life, exactly the same state of things has been remark-

ed. Extensive division of labor is a characteristic of civilized society; and from the degree to which it is carried in different communities, we might draw pretty accurate conclusions as to their wealth.

Doctor Smith has treated this subject in a masterly style, and succeeding writers have done little more than repeat his remarks. He classes the circumstances, springing from division of labor, which tend to increase the quantity of work performed, under the following heads. *First*, the increase of each workman's dexterity; *secondly*, the saving of time which is commonly lost in passing from one sort of work to another; and *thirdly*, the invention of machines, which facilitate and abridge labor, enabling one person to do the work of many.

First. With respect to *the dexterity of each workman*. It is plain, that when all a man's energies are concentrated on the performance of a single operation, he must attain a degree of proficiency in that which a part of his attention would never enable him even to approach. To perform the simplest operation in the quickest and best manner, a peculiar play of the muscles, or sleight of hand, is necessary, which cannot be acquired except by long practice. It is however generally acquired by that. Man is the creature of habit: the flexibility of his body, in adapting itself to a particular action or posture, is inconceivable, except from actual observation. A common smith, who, though bred to handle the hammer, has not been used to the making of nails, if he attempts it, can scarcely make more than two or three hundreds in a day: whilst boys, under twenty years of age, bred to the occupation, will make upwards of two thousand three hundred nails in the same time. The different operations

into which the making of a pin, or metal button, is divided, are still more simple than the forging of a nail; and the advantage of setting a workman to perform each of them is greater in proportion.

Secondly. *The saving of time effected by division of labor.* This is even still more obvious. When the same individual carries on several employments in different, and perhaps distant places, he cannot avoid losing time in passing from one to another. It will be necessary for him to change his tools for others, which may sometimes be injured by neglect, or mislaid; and perhaps he must change his dress also. In the woollen-manufacture, for instance, a scribbler or spinner would not be suffered to touch the cloth in its more advanced stages, lest he should soil it with oil and filth from his hands and clothes. Were he employed then on cloth in such stages of the manufacture, besides changing his tools, he would be obliged to change his dress, and cleanse his person. Even should nothing of this kind be necessary, and supposing also the different operations to be carried on in the same work-shop, a man, as Doctor Smith observes, commonly saunters a little in changing from one to another. When he first begins, he is seldom keen and hearty; his mind is said not to be in his work, and for some time he rather trifles than applies in good earnest. Occasional sauntering will often become habitual in some degree, and this alone, to say nothing of deficiency in skill, must considerably diminish the quantity of work performed.

Thirdly. *The invention of machines that facilitate and abridge labor.* Those engaged in one branch of industry only, will be much more likely to discover convenient forms for their instruments, and to invent labor-saving machines, than

such as have their attention dissipated on a variety of objects. A smith who made horse-shoes, chains, hinges, bolts, and plough-furniture, as well as nails, would be unlikely to invent, or indeed to have occasion for a machine used in America, which cuts nails out of iron, so rapidly as to form 250 perfect nails in one minute, or 15,000 in an hour. But division of labor not only whets the invention of the workman, or rather concentrates it on one point; as part of the system, machine-making itself becomes a separate trade, and those engaged in it devise many improvements and new machines. Instances of this will readily occur to every one.

These are the circumstances which Doctor Smith and most later writers on Political Economy employ, to account for the advantages of division of labor. But it is shown by Mr. Babbage, in his late work on the "Economy of Manufactures," that the cheapness of articles arises in a great measure from the master manufacturer's having the power, by dividing work into separate processes, of purchasing exactly the quantity of each sort and degree of skill which is necessary; whereas, if the whole work were performed by one person, that person must possess sufficient skill to execute the most difficult process, and must be paid accordingly, while a great part of his time would be wasted in the performance of labor which others, less skilful, could do equally well. For instance: in the manufacture of pins, the wages of the different workmen vary from 6*s.* to 1*s.* 6*d.* a day. A pound of pins is completed in 7½ hours, the labor costing 1*s.* 1*d.* Now if a single workman were set to make a pound of pins, it must be one who possessed skill enough to earn 6*s.* a day, and he must be paid 3*s.* 10*d.* for 7½ hours' work.

The cost of the pins, therefore would be more than trebled. This is an extreme case; but it is evident that an increase of expense, similar in its nature must be incurred whenever the smallest portion of any man's time is consumed in doing that which others, less skilful, and paid at lower rates, could do as well. This is prevented, and the highest degree of skill which each man possesses is kept in constant exercise, by a judicious separation and distribution of the processes to be executed. The effects of the principle here stated, when acted on, as it is with the utmost precision, throughout complicated manufactures, must be eminently conducive to cheapness in the articles produced.

"The Jack of all trades," says our homely adage "is master of none;" and the truth of this is acknowledged by the learned as well as the unlearned. Division of labor is practised by scholars, and men of science, and is just as advantageous to them, as to the humblest artizans. Philosophers acquire perhaps a general knowledge of many things, but they direct their attention chiefly to one or two points, making every thing else subservient to these. The chemist, the mineralogist, and the botanist separate themselves from the natural philosopher, and from each other; the political economist separates himself from the politician; the practical, from the theoretical astronomer; the surgeon, from the physician: each individual, in consequence, becoming more expert in his own department, and thus, intent only upon his own fame or profit, he adopts the very mode of conduct most productive of benefit to all.

Division of labor, together with the close and powerful union of forces in which it ends, is one of the most curious and beautiful features of the soci-

al system. The workmen divide only to unite the more closely and efficiently like the parts of a well-constructed engine, all, though distinct, are mutually connected and dependent. Persons who live thousands of miles from each other, and thousands who live closer together, without previous concert, or even knowledge of one another, are, perhaps, at the same moment, conspiring to produce a single piece of cotton cloth. Mighty means, it may be said, for so trivial an end. They are indeed mighty; but the end is worthy of the means. It is only by this division of labor, and this ultimate union of forces, that we could obtain cotton cloth, and an infinite variety of articles beside, which are so conducive to the comfort and pleasure of human beings, that in some countries their general diffusion has prolonged the average duration of life itself. Almost every science, as well as every art, is in some way rendered subservient to the production of many an article which appears to be of the simplest fabric, and which is in the commonest use. He who will go into a cotton mill, says an American writer, and observe the parts of the various machines, and the processes of the cotton, till it reaches the hydraulic press, with which it is made into a bale, and the canal, or rail road, on which it is sent to market, will find every branch of trade and every department of science, literally crossed, twined, interwoven with each other, like the woof and the warp of the article manufactured.

When we reflect on division of labor as a whole system and discover amongst how great a multitude the labor of supplying each person's wants is distributed, how few work with the *design* of benefitting others, and yet how few work *without* benefitting others; and consider also the gene-

ral certainty and sufficiency with which the wants of each individual are supplied, though the production of every thing that he eats, and drinks, and wears, depended from first to last on a thousand different wills, not one of which was ever swayed by the motive of serving him; our admiration is excited by the perfect order that reigns through this vast and beautiful system, while our conviction of its being one powerful cause of the general opulence that exists in civilized society, is completed. We see that its benefits are universally distributed; they are not engrossed by the rich and the great, but are shared by the poorest and meanest individuals. Dr. Smith has shown this in the striking passage that follows:—

"Observe the accommodation of the most common artificer or day-laborer in a civilized and thriving country, and you will perceive, that the number of people of whose industry a part, though but a small part, has been employed in procuring him this accommodation, exceeds all computation. The woollen coat, for example, which covers the day-laborer, as coarse and rough as it may appear, is the produce of the joint labor of a great multitude of workmen. The shepherd, the sorter of the wool, the wool-comber, or carder, the dyer, the scribbler, the spinner, the weaver, the fuller, the dresser, with many others, must all join their different arts in order to complete even this homely production. How many merchants and carriers, besides, must have been employed in transporting the materials from some of those workmen to others who often live in a very distant part of the country! how much commerce and navigation in particular, how many ship-builders, sailors, sail-makers, rope-makers, must have been employed in order to bring together the different drugs made

use of by the dyer, which often come from the remotest corners of the world! What a variety of labor too is necessary in order to produce the tools of the meanest of those workmen! To say nothing of such complicated machines as the ship of the sailor, the mill of the fuller, or even the loom of the weaver, let us consider only what a variety of labor is requisite in order to form that very simple machine, the shears with which the shepherd clips the wool. The miner, the builder of the furnace for smelting the ore, the feller of the timber, the burner of the charcoal to be made use of in the smelting-house, the brick-maker, bricklayer, the workmen who attend the furnace, the mill-wright, the forger, the smith, must all of them join their different arts in order to produce them. Were we to examine, in the same manner, all the different parts of his dress and household furniture; the coarse linen shirt which he wears next his skin, the shoes which cover his feet, the bed which he lies on, and all the different parts which compose it, the kitchen-grate at which he prepares his victuals, the coals which he makes use of for that purpose, dug from the bowels of the earth, and brought to him perhaps by a long sea and long land-carriage, all the other utensils of his kitchen, all the furniture of his table, the knives and forks, the earthen or pewter plates upon which he serves up and divides his victuals, the different hands employed in preparing his bread and his beer, the glass window which lets in the heat and the light, and keeps out the wind and the rain, with all the knowledge and art requisite for preparing that beautiful and happy invention, without which these northern parts of the world could scarce have afforded a very comfortable habitation, together with the tools of all the different

workmen employed in producing those different conveniences; if we examine, I say, all these things, and consider what a variety of labor is employed about each of them, we shall be sensible that without the assistance and co-operation of many thousands, the very meanest person in a civilized country could not be provided, even according to, what we very falsely imagine, the easy and simple manner in which he is commonly accommodated. Compared, indeed, with the more extravagant luxury of the great, his accommodation must no doubt appear extremely simple and easy; and yet it may be true, perhaps, that the accommodation of an European prince does not always so much exceed that of an industrious and frugal peasant, as the accommodation of the latter exceeds that of many an African king, the absolute master of the lives and liberties of ten thousand naked savages."

THE CAUSES OF DIVISION OF LABOR.—It is easier to describe the effects of division of labor than to trace it back to its origin. According to Doctor Smith, the circumstance which gives occasion to the practice, is a natural propensity in man to barter; but it seems more proper, on the whole, to consider barter as a consequence of division of labor, than as a cause. *After* labor has been divided, and *because* it has been divided, exchanges of superfluities take place; the division will then be continued and extended with a view to exchange. A motive is always necessary with reasonable beings, to determine their observance of method in their actions; and for this motive, division of labor is certainly indebted to exchange. No man would pursue one employment alone, except for the purpose of exchanging his surplus produce with that of other men. Still, even in

this light, barter only presents us with the reason *why* labor is divided: the causes which actually effect its division are to be found in man himself.

We have seen that amongst savages each individual performs *nearly* every thing for himself. The limitation is essential, because even in this state, wherever a family exists, some sort of division of labor takes place. Woman was given to man as a help-meet; and he has never omitted to claim her assistance, nor has she ever been found unwilling to discharge her duty. Amongst the rudest people, war is exclusively carried on by the man; the pleasures and perils of the chase he also takes to himself; leaving the woman to watch over and provide for the children, to cook, and to labour within and about the hut, in the discharge of numerous little offices suited to her strength. This primitive division of labor between the sexes continues through all the stages of civilization: the women are occupied in domestic affairs, while the men perform most of the out-door labor, for which they are respectively fitted by their bodily and mental constitutions.

But this fitness of the sexes for different employments is only an instance of the general truth, that every human being, from age, health, strength, or turn of mind, is better adapted for one occupation than for others. The aged, the young and the weakly in body or mind, can perform labor, useful, and even indispensable, which yet is disdained, on account of its very easiness, by robust and vigorous-minded men; and amongst these latter again, even where there is no superiority, and no inferiority, there are innumerable differences; men being perhaps at least as unlike in mental structure as in features.

These differences of ability amongst individuals

we conceive to be the natural origin of division of labor. The principle however is afterwards pushed much further than they will account for, by subordinate causes. It is found, that constant practice commonly gives a workman proficiency in any one of very many employments for which he had originally no especial fitness; and even after labor has been divided so far as to secure all the advantages arising both from its distribution according to natural ability, and from the great increase of skill that follows the constant repetition of the same kind of labor, its division is often pushed a step further, amongst skilful and intelligent workmen, chiefly, it would seem, for a saving of time. Two or three carpenters working on the same job, will frequently make a division of it amongst them, not according to the quantity of labor in it, but according to its parts. Suppose they are making the doors of a house; instead of each man's making a certain number of doors, one will plane all the boards, another saw and reduce them to the proper form, and the third nail them together and finish off the work. Perhaps the qualifications of the workmen may be so nearly equal, as to make it of very little consequence what part of the work is taken by any one of them; yet a division of the kind alluded to is certainly found to be advantageous, or it would not be so often made. But observe, the slightest measure of the original cause, difference of natural ability, will be sure to act whenever it is not over-ruled by other circumstances, and to determine *how* labor shall be distributed: to the strong arm will be allotted the heaviest labor, to the sharp wit, that which requires most contrivance and management.

One natural cause then, and the most powerful that can be assigned, for division of labor, appears sufficiently clear: men have different natural talents, and as reasonable beings, who know their own good, they pursue those occupations for which they are thus best fitted. In England, the taste of a youth is consulted, if possible, and his bodily and mental powers are scrutinized, before his trade is selected. Circumstances prevent this from being done always, but still the principle is recognized, and the advantage of acting upon it clearly understood. In many cases, when the predilection of a boy for a certain occupation has been found absolutely unconquerable, his after-successes have shown how much will be done when the heart is in the work. The mother of Newton attempted to make him a farmer, but the young philosopher crept into the hay-loft to con his Euclid; and when sent to market with cattle, entrenched himself under a hedge by the way side with a book, suffering the servant to proceed alone, and joining him on his return when the traffic was done. This perseverance was at length wisely given way to, and the glories of Newton's chosen path need not be told.

As some sort of traffic was probably carried on at a very early period in the history of mankind, it is not quite certain to which of the two, division of labor, or exchange, should be assigned the earlier date. This question concerning them, however, is more nice than its solution is necessary; which ever was the first-born, they must both have grown up together. That there shall be exchange is the condition of a systematic division of labor, and that there shall be division of labor, is that of a systematic exchange. Division of labor could

not be established without exchange; and though perhaps exchange might take place where labor was scarcely divided at all, it could only be accidentally. The chance surplus of a very successful day's hunting might be sold for that of a very successful day's fishing, and the appetite of each party to the traffic would be gratified with a meal of fish and flesh, instead of either alone. The hunter may be also a fisher, and the fisher a hunter, in this case; still it will be seen that the exchange arises from a temporary division of labor. It is hard to separate the two principles even in theory, but there is no need, for they work in the most perfect and beautiful union. Should one savage possess a special aptitude for making bows and arrows, another superior dexterity in hunting, and another in shaping and sewing their rude garments, from the very nature of things, exchange and division of labor will be instantly established. A keen eye to his own interest leads him who excels in the making of bows and arrows, to follow that as his chief occupation; he finds the hunter will give him so much food for his weapons that he can exchange part of it with the tailor for clothes, and thus procure more food and clothing than he could do by hunting and sewing for himself. It is evident that the others will act in the same way, and from similar motives. Unless adverse circumstances intervene, the two systems will gradually extend, and nicely adjust themselves to each other, until the most highly-wrought productions of the most dissimilar trades are brought into a common stock, where every one may purchase whatever portion of other men's skill he desires.

THE LIMITS TO DIVISION OF LABOR. As division of labor is practised only with a view to exchange, so the greater or less extent to which

this division shall be carried, is determined by the extent of the market; a phrase signifying only the number of persons who are able and willing to exchange commodities with one another. As to the nature of different employments, we cannot conceive any obstruction to a further division of labor ever arising from that cause; its influence seems all the other way. Scarcely any thing, for example, appears more simple than the forging of a nail. Perhaps one man might heat the iron, and another work at the anvil. Yet in nail-making with the machine, several persons are employed in distinct processes; and should the machine come into general use, probably the construction of many parts belonging to it will become the exclusive business of so many particular workmen. In spinning-machines, and steam-engines, such has long been the case; new machines have even been invented to make particular parts of these machines.

But when the market is small, the limit to division of labor is very evident. Few persons can pursue one employment exclusively, because there is not a demand for their commodities large enough to take off all that would in that case be produced. Very many kinds of industry can be carried on as distinct trades only in large towns. Water-carriers, palankeen-bearers, writers, printers, bakers, in Bengal, can only find employment where a considerable number of people are gathered together; and in every country, those who live in the less populous parts, are obliged to do many kinds of work for themselves, which others, not more wealthy, living in the towns, call in different workmen to perform.—Many trades also are separated in the towns that are joined in the country. In the villages of England, a carpenter does every sort

of work in wood; he is at the same time a joiner, a carver, a cabinet-maker, and perhaps a wheelwright, a plough, and a cart-maker. In like manner, the smith does all that is required in iron; he shoes horses, and makes hinges, chains, and nails. It is impossible, says Dr. Smith, that there should be such a trade as that of the nail-maker in the remote and inland parts of Scotland; a single workman can make 300,000 nails in a year, while perhaps not more than a thousand, the produce of one day's labor, are wanted throughout the year.

Selecting from the mass of commodities enjoyed by a civilized people, those which are most commonly used, and for which therefore the market is most extensive, we find, with very few exceptions, that in the manufacture of these, division of labor is pushed to the greatest extent. Pins, cotton and woollen cloth, metal buttons, pots, pans, and nails, are instances of this. Extensive division of labor cannot be introduced into the manufacture of articles which, from their high price, have few purchasers. In visiting the workshop of the lapidary, one is often dazzled with the costliness of the materials, and the skill and patience of the workman; but it is only in the grand manufactories of articles universally consumed, that we are astonished by the profusion of art, science, invention, and division of labor, employed in making the product cheap and perfect. In looking at an article of jewellery, it is easy to form an idea of the tools and processes by which it was fashioned and polished; but few people from merely looking at a knife, a tin kettle, or a piece of cotton cloth, would imagine the myriads of wheels, the floods of water, and the multitudes of workmen, that have been employed in its fabrication.

There are two important circumstances which, by enlarging the market, extend division of labor: *increase of population*, and increased *facility of communication* between people living at a distance from each other. Let a village increase in population, and division of labor will instantly be extended; the same cause will push the practice to a greater length generally, throughout a whole country; and if in one, in all countries, or the world itself. In a rapidly increasing village, the universal carpenter that works best at house-building, will become a house-builder only; bakers, butchers, masons, will establish themselves, and even the nail-maker's ingenuity will be taxed sharply, that his production may keep pace with the growing demand. The commodities produced by one laborer constitute the price, and his wants the market, for those produced by others; and supposing a community separated from foreign markets, while its own populatiou increases, there is no limit to division of labour in that community. On the other hand, were population stationery, little could influence division of labor beside alterations of taste, and they would cause, principally, changes in the distribution of labor, not an increase in its division.

Facility of intercourse, either between people of the same country, or between them and foreigners, affects division of labor exactly in the same way as an increase of population. Every improvement in the means of communication with foreigners enlarges the market by adding their demands to it; the opportunity of extending division of labor is afforded, and sometimes entirely new trades are established in consequence. Amongst all the modes of transport, water-carriage is the most easy, and for considerable distances, the most universal. Any advantages in this respect which a people

may possess, are generally found to be highly favorable to their manufactures. According to the most authentic records, the nations first civilized were those that dwelt around the Mediterranean sea. This sea is by far the greatest inlet in the known world. It has no tides, and therefore no waves, but such as are caused by the wind; and its smooth waters, its multitude of islands, and the proximity of its opposite shores, were extremely favorable to the infant navigation of the world. Again: of all the countries on its shores, Egypt seems to have been that in which manufactures first attained any considerable degree of eminence. Upper Egypt is a narrow strip of land on each bank of the Nile, and in lower Egypt the many branches of this noble river form so many canals, which assisted a little by art, not only rendered water-carriage easy between the great towns, but extended its advantages to the villages, and even to many farm houses in the country, nearly as the Rhine and Maese do at this day in Holland.

Before division of labor could be carried to its present extent in Britain, it was necessary, not only that the people should become twenty millions, but that all these, and millions of foreigners besides, should be brought *near* to one another, by means of twenty-five thousand miles of roadway smooth as a garden walk, three thousand miles of canal navigation, twenty thousand vessels of burthen; that steam should impel vessels through the deep with far greater regularity and swiftness than wind; that a new market should be opened in a new world; that rail-roads should assist canals, and that mighty, untiring steam-engines should be yoked to the carriage, instead of mere mortal and feeble horses. Unless people

can know, and reach each other, they cannot exchange, and without all this immense apparatus for facilitating communication, the market for the produce of many a laborer could only be his own neighbourhood. He must therefore practise several trades, and sacrifice the power gained by dividing them.

The internal communication of England is a wonder far greater, and infinitely more beneficial to mankind, than any one, or even all of the nine boasted wonders of antiquity. The island of Great Britain is 600 miles long: the public roads therefore would reach forty-one times from Portsmouth to Cape Wrath; the canals five times; the railways twice. On the new rail-way between Liverpool and Manchester, 150 tons of merchandise have been dragged by one steam-engine at the rate of twenty miles an hour; a speed which may be increased to thirty miles. Thus for every commercial purpose, Liverpool is carried forty miles into the heart of the country, and set down almost close to Manchester. Manchester is likewise transported to the sea, and placed at the mouth of the Mersey. Yet, in gaining the advantages of proximity, they hold fast all those of separation too. Each is far out of the other's way; Liverpool nigh to her docks, shipping, and ware-houses, and Manchester amidst her hosts of looms, spinning-machines, and steam-engines. In the East, the distance between two places is said to be one or more day's journey: were there a rail-way and steam-carriages between Calcutta and Moorshedabad, either would be one day's journey from the other.

The carriage by water is scarcely less wonderful than this. An achievement so great as three voyages between the south of England and the

opposite coast of France, formerly purchased a title of nobility: a King's son was tossed in the channel for three months ere he could reach a port. The voyage is now made, a cargo discharged, another shipped, and that is conveyed back, all in about nine hours. In spite of the fickleness and violence of winds and waves, the longest voyages are performed with more ease and safety than were formerly even to be expected in a journey from London to York. One instance of this is given by Sir J. Herschel, in his Discourse on the study of Natural Philosophy. Captain Basil Hall, an officer of the British Navy, after a voyage of nine thousand miles, occupying a period of eighty nine days, without having seen a single landmark from first to last, lately ran his ship into the harbour of Rhio, with as much confidence and accuracy as a coachman drives his carriage through a gateway.

The possible extent of the field for the exchange of commodities, or the market, and consequently the limits to division of labor, thus appear just as indefinite as the limits of knowledge and skill. Between people of the same, and of different communities, new relations are continually arising: and such will ever be the case, if men will not suffer them to be suppressed by their governments,—by power which they themselves give. With respect to the desires of man, there is no fear of ever satiating them: all of us feel a thousand wants of which we should never have been conscious, had we not first seen the means of supplying them. The savage is a listless, indolent being, because he does not know his own wants. Offer him a string of beads, a blanket, or a gun,—let him taste some strange production of human skill, and you will infallibly increase his desires,

and excite him to exertion. He will give every thing he possesses for a glittering toy to adorn his person, and endeavour, for the sake of a musket, to collect more elephants' teeth, and furs; nay, for a pernicious dram, he has been known to sell himself and his dearest relatives. Motives precisely similar in kind, though restrained by religion and superior knowledge, govern us; we labor first for necessaries, and afterwards continue industrious in order to procure luxuries.

It is no part of the political economist's business to *judge* the wants of mankind; to inquire whether they are, or are not, artificial; whether they are founded in nature or in imagination, in reason or in fashion. It is enough for him to know that they actually exist, and continually increase. Still he may say this for many of the most capricious and frivolous amongst them: that by making articles for their gratification, thousands live, and that to obtain those articles, thousands labor with additional vigor. "Flourishing cities," says Dr. Paley, "are supported by trading in tobacco; populous towns subsist by the manufactory of ribbons. A watch may be a very unnecessary appendage to the dress of a peasant; yet if the peasant will till the ground in order to obtain a watch, the true design of trade is answered, and the watch-maker, while he polishes the case, or files the wheels of his machine, is contributing to the production of corn, as effectually, though not so directly, as if he handled the spade or held the plough. The use of tobacco has been mentioned already, not only as an acknowleged superfluity, but as affording a remarkable instance of the caprice of human appetite: yet if the fisherman will ply his nets, or the mariner fetch rice from foreign countries, in order to procure this indul-

gence, the market is supplied with two important articles of provision, by the instrumentality of a merchandise which has no other apparent use than the gratification of a vitiated palate." The bearing of these remarks on the subject in hand is perhaps sufficiently evident. Every new want that fixes itself in the habits of mankind, though it should be a want springing from caprice and fashion, instead of nature or reason, has a tendency to extend division of labor. And as there are constant cravings after new enjoyments in the breasts of all men, this stimulus to its extension is absolutely inexhaustible.

The state of division of labor in this country is singular. Ages ago it was carried to a considerable extent by the Hindus, but it suffered a fatal check, and is now neither a growing practice as in Europe, nor one that has reached its natural limits. Population, indeed, is said to be nearly stationary; but then the people are already so numerous, their internal communication by water is so easy and extensive, and latterly, at least, their intercourse with foreigners has been so considerable, that we must search for other obstructions to the growth of the practice; it cannot be limited by the narrowness of the market. One artificial bar to its progression is sufficiently obvious. The tyranny of custom is a cause which keeps division of labor at a stand, at the same time so perversely thwarting that degree of the practice which is permitted, as to destroy some of its most eminent advantages. The Hindu youth, if intended to be made useful at all, so far from being encouraged to look abroad and select an occupation congenial to his own taste, is chained to that of his father by hosts of prejudices, and an ignorant dislike, or contempt towards other occupations.

Some movement is now taking place, owing to a small alteration for the better in the matter of opinion, and other salutary effects of intercourse with Europeans. The business of producing raw silk has been subdivided amongst several more individuals, in consequence of the quantity required for export. The same is the case with the indigo and sugar manufactures; and in Calcutta, especially, several new trades, such as those of commercial agents, ship-builders, printers, book-binders, and bakers, are carried on, solely from European example and encouragement.

CHAPTER V.

EXCHANGE.

MAN the only animal capable of making exchanges.—He is prompted to exchange not by benevolence, but by self-interest.—Exchange necessary to render division of labor effectual in augmenting the enjoyments of mankind.—TERRITORIAL DIVISION OF LABOR; AND COMMERCE.—Differences in climate, soil, and natural productions, lead to territorial division of labor.—This leads to commercial intercourse.—The advantages of commerce between two countries are mutual.—Are not lessened by the accident that the countries are subject to different governments.—Restrictions on commerce injurious.—Commercial ties favourable to peace.—Merchants, and shopkeepers, are serviceable laborers.

MAN, says Doctor Whately, might be defined as "an animal that makes exchanges." There are, it is true, other animals—bees and ants amongst insects, and beavers amongst quadrupeds —which to a certain extent are social; that is, they concur in the execution of a common work, for the common good. Still no insect, nor beast, how wonderful soever may be its occasional approaches to reason, ever manifests the least idea of exchange. Nobody ever saw one of the inferior animals saying by its gestures and cries to another, This is mine, that is yours; I am willing to give this for that. On arriving at maturity, each individual becomes entirely independent, and never afterwards obtains assistance from any other living creature. Yet, amongst many tribes, confessedly of the same species. there exists a great variety of natural talents. By nature, the philosopher is scarcely half so different from the street-porter as the mastiff is from the greyhound, or the greyhound from the bloodhound, or the blood-

hound from the spaniel. Still no one of these renders the slightest service to another, though they are often seen living and breeding together. The exquisite nose of the bloodhound is not in the least assisted by the swiftness of the greyhound, the strength of the mastiff, and the sagacity of the spaniel; nor does it assist them; nor do they assist each other. For want of the inclination and the power to exchange, the benefits of these natural gifts cannot be brought into a common stock, and do not at all contribute to the well-being of the species. Every individual enjoys the whole benefit of its own powers: each is sufficient for itself, and it stands alone.

With man the case is widely different. He is no less fitted for acting in concert with his fellows, than the inferior animals are for pursuing their own good singly. Many other animals are superior to man in strength, in swiftness, in quickness of sight, in acuteness of hearing and smelling, and in hardihood; but the alliance of each human being with all, and the faculties which render that alliance practicable, have made man the master of the world. The principal of union so thoroughly pervades our whole race, that it would be rash to point out any two classes, almost any two individuals, and say they do not assist each other. The wisest philosopher instructs the lowliest peasant, and the lowliest peasant feeds the wisest philosopher. Not a single individual stands without the pale of this interchange. Every one not only receives, but gives; for he has constant need of his fellow's assistance, and he would vainly expect it from their benevolence alone. In civilized life he daily requires the co-operation of great multitudes, while his whole life is scarcely sufficient to gain the friendship of a

few persons. He is however certain of prevailing when he can interest the self-love of others in his favor, and show them that it is for their own advantage to do what he asks of them. Whoever offers to another a bargain of any kind, does this. Give me that which I want, and you shall have this which you want, is the meaning of every such offer; and it is in this way that we obtain from one another the far greater part of those good offices which we stand in need of. It is not from the benevolennce of the butcher, the brewer, and the baker, that we expect our dinner; but from their regard to their own interest. We address ourselves not to their humanity, but to their self-love; we talk to them not of our own necessities, but of their advantages.

In the last chapter, it became necessary to introduce the subject of this; for the purpose of describing the strict and beautiful union that subsists between exchange and division of labor;—of showing that division of labor produces exchange as a necessary consequence;—and of explaining how exchange re-acts on its cause, confirming and extending division of labor. Some of the advantages of exchange therefore will have been anticipated. It is plainly the tendency of division of labor to throw commodities of the same kind together in large masses: it is the effect of exchange to distribute these masses. When all a man's time and labor are devoted to the production of one or two articles, he must produce far more of them than he himself can consume; but then he produces nothing else. A multitude of persons, each of whom is the maker of a different commodity, are in the same situation. The sum of commodities, greatly augmented by a skilful distribution of the business of producing them amongst a number of individuals,

is perhaps enough to supply all: but nothing is in the right hands; nobody has what he wants. Exchange then is necessary to complete what division of labor began: the supplying of all with the various articles that minister to the convenience and comfort of life.

No advantage would accrue to the manufacturer of cloth from his making a thousand times more than he can wear, unless he disposed of it for other commodities. But as a great number of manufactures beside also produce an overplus of different commodities, when each of these gives to the clothier for his cloth some other production equally useful, the use and benefit of the clothier's excess is plain. Exchanges of this kind take place throughout the whole set of producers. Thus the wants of each person are supplied, and that far more certainly and abundantly by his industry in making a single commodity, or a part of one, than as though he could, and did, make every thing for himself. This universal provision is the result of no intention on the part of individuals, of no contract amongst society at large. Each person steadily and exclusively pursues his own interest; but he necessarily promotes that of the whole community as well.

It is impossible for the most selfish laborer to engross all the benefit even of his own skill and industry; in the very act of making their productions minister to his own pleasure, he is distributing them to others. Throughout this arrangement, by which the welfare of every individual, instead of being left to the weak and wavering benevolence of others, is made to flow from their self-love, the strongest principle in human nature, we discern the finger of Heaven, as plainly as in the material world: and vainly do some assert,

that the things of which Political Economy treats, are the province of chance, and beyond all rule, while we behold amongst them such evidences of perfect order, and of intelligence more than human.

TERRITORIAL DIVISION OF LABOR; AND COMMERCE. Exchange between members of the same community is called Internal or Home Trade, and to this alone we have hitherto referred. But it usually happens, that before internal trade is carried to any great extent, another kind of exchange springs up, between individuals of different nations, and this again is termed Commerce. In addition to most of the advantages attendant on internal trade, commerce possesses many, equally important and interesting, which are peculiar to itself.

They arise chiefly from the diversities of soil, climate, situation, and natural productions of the earth, which induce, and indeed compel, the inhabitants of whole districts to practise certain species of labor in preference to others. In our days, this conduct forms a system, not less constant and well-adjusted, than the division of labor amongst individuals. It has been named *territorial division of labor;* under which term is also included that division of labor, arising from circumstances of the kind mentioned above, which takes place amongst the different parts of the same political state.

As though nature designed that all the ends of the earth should be knit together in peace, by ties of mutual benefit, she has bestowed various things, in the highest degree useful to all men, only on particular spots; thus rendering many of her gifts inaccessible, except with their owners' consent, to the majority of mankind, and furnishing all with the strongest motives for cherishing universal good will. In one place, an ever bright sun ripens a

profusion of delicious fruits; in another, abundant moisture covers the earth with rich grass for the nourishment of cattle: the hills contain stores of metal, and are clad with the best of pasture for sheep; the plains and valleys produce various kinds of grain. A country like Great Britain, rich in ores and coal, girded on all sides by the sea, possessing many harbours for the sheltering of navies, and being moreover the *central* spot of that hemisphere which contains nearly all the land on the globe, is the natural seat of manufactures and commerce. The romantic banks of the Rhine and the golden vale of Thuringria in Germany, the provinces watered by the Douro and Guadiana in Portugal and Spain, the gentle hills of Burgundy and the banks of the Marne in France, are districts highly favourable to the growth of various sorts of grapes, which yield the most exquisite wines. The bleak declivities of the Norwegian mountains, where it is impossible to grow corn, are clothed with forests of pines, which thrive only in such situations; while the fertile plains of Picardy and Normandy are admirably adapted to the growing of corn, and the flat country of Poland has been called 'God's granary for Europe.' The moist lands that skirt the broad rivers of the torrid zone, produce vast crops of rice; the east of Asia, and some parts of America, cotton; Arabia, Turkey, and Bourbon, coffee; the Mauritius and both Indies, sugar; Bengal abounds with indigo and silk, China with tea, South America with silver, the Indian Archipelago with the richest spices.

It is thus throughout the world: almost every country affords peculiar advantages to some species of human labor, and throws peculiar obstacles in the way of others. Indeed there are many

more differences of this sort in the world than there are distinct countries. One political division or state often presents a great diversity in the natural advantages of its different parts. In Hindusthan, the hills afford timber ; the plains of the Doab, cotton ; the Sunderbunds, salt. In England, the coal districts of the north are the seats of manufactures ; Norfolk, Suffolk, and Cambridgeshire are principally corn-lands ; Cheshire and Gloucestershire, owing to their rich pasture, are noted for cheese ; Kent, and part of Surrey, for hops ; and the thymy herbage of the Scotch and Welsh hills fattens sheep, which yield the most delicate mutton.

Hence, the advantages of a division of labour, which sets men to work *with* the natural capabilities of their dwelling-places, are very obvious. Were it not made, men must work *against* those capabilities as against difficulties,—for such they are with respect to various kinds of labor,—or else must forego many of their enjoyments altogether. Neither hops nor corn could be made to grow on the Welsh hills without double and treble the labor that would be sufficient in proper situations. The grapes of France and Germany cannot be grown, that we know of, in other countries, certainly not in England. By the very advantages of their situation, the vine-dressers are shut out from the sea, and therefore, could hardly build ships, fetch goods from abroad, and catch fish. To break up any part of the Cheshire meadows for hops, or to lay down any of the hop gardens of Kent to grass, would cause an immense addition to the labor of procuring cheese in one place, and hops in the other, even should it be practicable to force each to yield both those articles. The sheep of India do not afford wool fit to make tolerable cloth or

blankets; a great part of Bengal, consisting of the fine earth brought down from the Himmalaya by the Ganges and Brumhaputra, contains no useful minerals; but then, the cotton-tree, the sugar-cane, and the indigo-plant cannot be raised at all in Europe.

The additional labor required to mature a production of the tropics in a temperate climate, may be inferred from the cost of pines in England. As the pine will not keep during a voyage. it is cultivated there, and brought to perfection by artificial heat: the price of a single pine is frequently a guinea. Perhaps the fruit is somewhat superior to that sold in Bengal for two pice, but it is not equal to the West Indian pine, which is quite as cheap. The price therefore is rendered 350 times greater, owing to nothing but the lavish expenditure required; for any quantity may be raised, that only being supplied. How many foreign commodities England, or any other country, might produce for herself, it is impossible to say; probably very few in a sufficient quantity, and at a moderate expense; but that territorial division of labor is the most reasonable and profitable mode of setting to work, must. we think, appear tolerably certain.

But, as for men to obtain possession of the advantages attendant on simple division of labor, it is absolutely necessary that there should be exchange between man and man, so for them to obtain those of territorial division of labor, it is equally necessary that there should be exchange between nation and nation. Of what use would be the vast quantities of silk, cotton, indigo, and sugar raised in the East or West Indies, unless they were exchanged for cutlery, cloth, or other wares? The timber of Norway and Canada is useless, nay worse. a positive encumbrance; where it grows;

but it purchases for its original owners, wheat and clothing from other countries, supplying the buyers with excellent materials for constructing their houses, furniture, and machines.

Looking solely to the motives which actuate the merchant, we should be little inclined to attribute to his occupation those benefits which it really confers on society. We perceive that his end is the gaining of wealth for himself: the accommodation of others is a thought that never enters his brains. Seeing this, and searching no further, many have concluded that the profits of traffic are only the gain of one man by the loss of another. Such is the opinion which Montaigne, not 300 years ago, wrote an essay expressly to support. It has been since asserted again and again; it has often been confuted; and yet it still exists. Nevertheless few opinions are more clearly false. The advantages of commerce are never engrossed by either side alone. They do not consist in one of the parties' obtaining certain articles of greater, in exchange for others of less, value. For instance, it may ha ve cost more to produce the indigo and cotton with which the East Indian merchant purchases the cloth and cutlery of England, than it did to produce the latter. But then in this view the value of cloth and cutlery is estimated by the labor and outlay employed in producing these articles in England, a country having peculiar capabilities for such manufactures; and not by what would be found necessary to produce them in Bengal. In like manner, the worth of the cotton and indigo is estimated by the cost of their production in India, and not by the far higher expense of raising them in England, could that be done. The advantage of the trade between two countries consists in this, that by it,

each procures articles for the production of which it possesses no natural advantages, and which articles therefore would cost a comparatively large sum if produced directly at home, for what it costs to produce them under the most favorable circumstances, and of course, at the least possible expense.

This appears a complete answer to the question, how can the wealth of a nation be increased by its exchanging one commodity for another of the same value? The principle, however, is important, and it may be worth while to give another illustration, in a case where the advantage is less obvious. Each of two countries which produce the same commodities, say cloth and corn, and that at no extravagant expense, may yet find great advantage in confining its labor to one of these, and exchanging. Suppose that in England a certain number of men, in a given time, and with a given outlay, can make 100 yards of cloth, or raise 10 quarters of wheat; and that in Poland the same number of men, in the same time, and with the same outlay, can make 50 yards of cloth, or raise 20 quarters of wheat. Then 100 yards of English cloth are equal in value to the ten quarters of English wheat; but in Poland 50 yards of cloth, to the 24 quarters of wheat. With 100 yards of cloth therefore England will certainly be able to purchase from Poland 20 quarters of wheat; twice as much as she could raise at home with the labor and outlay of making the cloth. Poland also for 20 quarters of wheat will obtain 100 yards of cloth: twice the quantity she could make with the labor that raised the wheat.

Who can doubt that the salt mines of the Punjab might be made the source of mutual advantage to the inhabitants both of that country and of all around it? These mines are said to be

inexhaustible; they yield salt in any quantity, and with extremely little labor. One man with his wife and child can bring to the surface ten maunds in a day. A few years since this salt was sold at four annas a maund, and though the mines are now closely monopolized by the government, its price is still only one-third that of Bengal salt; at which, however, the profits are 1,100 per cent. Now salt is a thing for which there is a universal demand—every one uses it; though north of India it is so precious that little packets of it are used as money. Were the mines therefore thrown open, and were the people to employ their skill and capital in preparing salt for export, there appears nothing to prevent a profitable traffic from being carried on. All who could procure this cheap salt, would save something to expend in other commodities.

The natural benefits of exchange are in no wise lessened by the circumstance that countries are subject to different governments. The true interest of all is the same;—to procure food and clothing with the least possible quantity of time and labor. Intercourse with foreigners is the only way of effecting this; and when freest, it does not in the least militate against morality, or obedience to civil authority, at home. Commerce, and the diffusion of wealth which attends it, have done something towards softening the savage nature of man; but they have left him both able and willing to act and to suffer in a worthy cause. The commercial transactions of a country do not render it reluctant to defend itself and its rulers against foreign aggression; though happily they do make it cautious of becoming the aggressor. Indeed there is not a shadow of reason for thinking that the enjoyment of comfort

and elegance deprives man of any feelings really honourable to human nature; above all others not of those which lead him to defend his home. How should it?—besides being the sinews of war, wealth makes home better worth fighting for. The soldiers who passed from the saloons of Brussels straight to the field of Waterloo, winning the battle in their holiday attire, proved themselves not a whit inferior in valour to the starved Spartans of ancient times. It is by foreign commodities, of which the *diffusive* luxury we are referring to, in a great measure consists, that men are allured abroad to discover new markets, and promote division of labor at home: nor should it be forgotten, that knowledge and civilization always follow in the track opened by the merchant. The commerce of nations, like charity, bestows a double blessing: it blesses those who buy, and those who sell.

When these principles once gain their deserved footing in the hearts and understandings of men, a nation, instead of regarding the prosperity of its neighbours with jealousy and fear, will view it with satisfaction, arising both from a natural and noble sympathy in the lot of others, and from feelings more within our province—those of self-interest. It is a well-known maxim, and a very true one, that what comes cheaply, goes cheaply. If the manufacturers of any country, by their improvement in skill, and the increase of their capital, make goods at less cost, those who trade with that country will buy goods at less cost. From ignorant and poor people neither wealth nor knowledge can be obtained; wherefore it is for the interest of all nations to have rich and enlightened neighbours.

Restrictions have been laid on commerce upon

various pretences. The most usual perhaps is, that employment is lessened in a country by its importing a commodity instead of making it. Were the imported commodities *gifts*, that might indeed happen, and yet be no intolerable misfortune. But so long as foreigners will not part with a single article unless an equivalent be given, there is little reason to apprehend any such consequence. The equivalent, be it what it may, must be made, or procured in some way or other, by the importer's own industry. For every pipe of wine carried to England from Portugal, a quantity of woollens or hard-ware is made in England to pay for it, or for something else which does pay for it. To purchase goods with money, disadvantageous as this has been considered, amounts to the same thing: the money must be purchased with manufactures. When the import of a commodity is prohibited, its manufacture may indeed, sometimes, be established at home, and that, without doubt, to the benefit of certain manufacturers, who perhaps were before struggling against better and cheaper goods than their own. But this particular benefit is no justification of the measure which confers it. The greatest good of the greatest number is entirely disregarded: the few have a monopoly with respect to the many. Of course the home manufacturers sell worse goods at higher prices, or else there would be no use in prohibiting the foreign manufactures. But the effects of competition at home will certainly and quickly reduce profits in this manufacture to the level of profits in other manufactures, though the price of the goods may still greatly exceed that of foreign goods. Thus it happens that more is lost, sometimes much more, by the consumer, than is gained by the maker. The maker only obtains an

average profit, while the consumer, in addition to that, pays all the difference of price between home-made and foreign goods.

It has been said, and without doubt truly, that had there been no restriction on importation, several manufactures which now furnish employment to considerable numbers of people, would never have existed in England. Still this statement affords no argument against freedom of trade. It is just as little for the interest of nations, as of individuals, to engage indiscriminately in every possible employment. The number of people employed will be always limited by the quantity of capital in a country; and no restriction on importation can increase that. This capital may be all engaged in manufactures for which the country possesses some natural or acquired advantage: and the people, by thus entering into the grand system of division of labor, will not only make the most of their own resources, but will, by means of exchange, certainly obtain a share of the advantages enjoyed by others. It must be remembered, that the utmost freedom of commerce will not enable foreigners to supply a country with commodities which it can produce as cheaply as they. Home manufacturers have many advantages over foreigners. They are intimately acquainted with the language, laws, taste, fashions, and credit of those to whom they sell; and the price of their commodity is not increased by the expense of conveyance from abroad. A foreigner wants all these advantages—advantages against which nothing but the excellence and cheapness of his goods can enable him to contend. To refuse his goods for the sake of making others at more expense at home, is absurd and injurious. A carpenter, who should attempt to make his own

shoes, would be called a fool for his spurious economy; and why the conduct of nations should be judged by principles so different from those used in judging that of individuals—as though a nation were any thing but a collection of individuals!—is, to say the least, hard to be discovered.

It is allowed to be very advantageous for the cotton-spinners of Lancashire to buy wheat from the Irish with cotton-cloth; for the manufacturers of Birmingham and the farmers of Cheshire to exchange hard-ware and cheese; for the graziers of Scotland to give cattle for barley, cutlery, and cloth: why then should not the exchange of commodities with neighbouring countries be equally beneficial? If it be advantageous for the miners of Durham and Cornwall to be only miners, having their knives, pick-axes, and gunpowder carried from Birmingham and Hounslow; if it be advantageous for the inhabitants of the Scotch hills to attend only to the rearing of cattle, importing cutlery and cloth from Yorkshire, it must also be advantageous for the people on the southern coast of England, to exchange their produce for that of the people on the opposite side of the Channel, with whom they are naturally connected much more closely than with those of Ireland and Scotland. The English Channel can make no more difference in this respect than the Irish Channel or the Tweed; and the apples and wheat of Normandy, the raisins of Provence, and the brandy and wine of Gascony, would scarcely be less grateful to the taste of Englishmen, because they were produced on lands subject to the sway of the French king.

By the English opponents to a free trade in corn, the danger of a nation's being starved that depended for its supply upon another, in case of

war between the two, is always insisted upon. But if one country depends on buying corn from another, that other equally depends on selling it. Relying on a profitable market for their produce, the people of the corn country will probably have neglected manufactures, and directed all their capital and skill to the growing of corn. Will *they* then break off the trade, and in holding back from their great market, wilfully meet all the horrors of the glut of corn, the declension of price, the ruin of farmers, and the loss of rents, which are inevitable consequences? Of food there might indeed be abundance in such a country, corn might be thrown into the streets; but where would be the plough-shares, the spades, the knives, the cottons, the cloths, for which it should have been exchanged? things scarcely less necessary than food itself to those accustomed to have them. They might perhaps be purchased from other countries; but not without a ruinous sacrifice of corn: the subsistence of a whole nation could not be thrown at once into the general market without immense loss to the sellers.

Besides, the people in want of corn might also buy that elsewhere. Wheat itself is grown in a great number of places; knives and spades are made in very few: but food, of some kind or other, is never out of their reach who have ships to fetch it, and goods to buy it. Rice, barley, oats, rye, for a season, would be infinitely better than dear corn always. There is however no reason for apprehending a scarcity of wheat. The English silk-weavers, cotton-spinners, and cloth-manufacturers, together with the millions who assist their labors, are perfectly dependant on other countries. Were the supplies of silk, cotton, and wool cut off, none of them could work; and with-

out working, they would certainly obtain no bread. Yet, as in this case selfishness does not fight against common sense, no anxiety is shown lest cotton, silk, and wool should be withheld, though a possible substitute for any one of them is not known. As a matter of fact, it may be mentioned, that no countries in the world were ever more constantly and cheaply supplied with corn than Holland and Venice, both of which purchased it from other countries. Venice, in the days of her greatest prosperity, was doubly dependant, first for the goods to purchase corn, and then for the corn itself.

Thus there is no alternative: if we would be prosperous ourselves, we must bear with the condition, painful as it seems, of seeing the prosperity of others; we must be content to owe part of our own prosperity to that, and must allow others a fair opportunity of repaying themselves. Independence is a sounding word: and without question, were there no commercial connections between nations, they would at all times be more ready to engage in war. But the best men in all ages have deplored the calamities of war, and thought it the most grievous interruption of prosperity that could happen. Nothing can be more favourable to universal peace than the linking of nations together by the strong tie of commerce. They will perhaps one day see, that it is for their mutual interest to be friends; and then, instead of quarrelling about trifles, which individuals would pass over without notice, they will become reasonable, generous, humane, and peaceable. It is impossible for them to avoid being dependant on one another in some measure; and why should they try, when the farther their mutual dependance is carried, the more prosperous do they become? As well might

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a single wheel in a watch pretend to move without the rest, as one man or body of men think to be at once independent and prosperous.

The true advantages of exchange being understood, those of having a distinct class of people to carry a great part of it on, follow immediately from the principle of division of labor. To a certain degree, every manufacturer is an exchanger; he buys his materials, and sells his produce. But the business of distributing commodities is performed, in a great measure, by a set of men who have nothing to do with making them. Buying and selling is their art; and they are as much laborers, as are cotton-spinners and tailors. They are wholesale dealers or merchants, and retail-dealers or shop-keepers; though the same persons are often both at once.

Merchants derive their occupation from territorial division of labor. The whole of the clothier's and wine-maker's attention is engrossed by their respective occupations; but to find the best market for cloth and wine requires a knowledge of the wants and tastes of different communities, which cannot be obtained without much time and trouble. The merchant relieves the manufacturer from this, and is paid by making a profit on what he sells. He is therefore constantly on the watch to find out where plenty and scarcity exist, and it is his interest to keep every community well supplied. Should the harvest fail in any country, or tools and clothing become scarce, there lies his market and his profit. His correspondents instantly inform him that prices have risen. He seeks out those who having the greatest superfluity will sell most cheaply, and buying of them, he quickly supplies the deficiency wherever it exists, and that at the lowest rate. Thus even the varying fertility of the seasons

is in a great measure rendered harmless, and the merchant's occupation, instead of causing ruinous fluctuations in prices, of which it has often been accused, naturally tends to prevent them.

Retail dealers are those who buy large quantities of goods, for the purpose of dividing them, so as to suit the wants and tastes of the immediate consumers. "If there were no such trade as a butcher," says Dr. Smith, "every man would be obliged to purchase a whole ox or sheep at a time. This would generally be inconvenient to the rich, and much more so to the poor. Nothing can be more convenient to such persons than to be able to purchase their subsistence from day to day, or even from hour to hour, as they want it." The retail-dealer conjectures with great accuracy the quantity of any article which his customers will require in a certain time, and this serves for the guidance of the manufacturer and merchant, by whom, owing to their distance from the spot, such intelligence could not often be acquired. Retail-dealers, like merchants, receive no wages for their useful services: they are paid by making a profit on what they sell. They have therefore the strongest motives for performing their task well, as they can only make a profit by strict economy; and if negligent or wasteful, they can obtain no additional price to make up for the deficiency occasioned by their misconduct. Thus, buying and selling only with a view to their own profit, they distribute the common stock in the most convenient and economical manner possible; they find customers even for refuse, and there is no waste.

CHAPTER VI.

MONEY.

Difficulties which must be experienced in bartering commodities for each other.—Various articles have been employed, as money, to obviate these difficulties.—Reasons for the general employment of the precious metals in preference to other articles.—Coining.—Frauds committed by the parties entrusted with the business of coining.—A nation may have too much money.—PAPER-MONEY consists of promises to pay sums of coin.—Governments have frequently broken such promises.—Different kinds of commercial paper-money.—Use of Bills of Exchange.—Of Promissory Notes.—Of Bank Notes.—Is paper-money any real addition to the wealth of a nation?

HAVING apprized the reader, at the outset, that money and wealth are not equivalent terms, he will recollect, that we have not found it necessary so much as to mention money since, though professedly engaged in an inquiry into the causes of national prosperity. This of itself would have some weight in proving, that money is held in more than due estimation, by mankind in general; and the tenor of all that has been written, is, we think, adapted to confirm such an opinion. But we must not go too far, and undervalue money; for it is a *species of wealth*, in the highest degree useful as *an instrument to facilitate exchange*. A detail of the manner in which it effects this, will afford a clear idea of its real uses.

When division of labor began, one commodity must have been directly bartered for another. The person, for instance, who had an excess of food, endeavoured to find those who were in want of food, and who possessed an excess of clothing or tools, which of course they would be willing to give for it. This mode of proceeding, however,

was attended with many inconveniences; and while it was the sole practice, both division of labor and exchange must have been confined within very narrow limits. Though one man had too much of a certain commodity, while another had too little, they would often be unable to exchange, because neither had what the other wanted.

But perhaps the best way of discovering the advantages of using money, is to inquire what men would do now without it. The baker, we will suppose, has more bread than he can consume, and the tailor and carpenter are desirous of purchasing a part of it. But they have nothing to offer in exchange, except the productions of their respective trades, and the baker is already provided with all the clothes and furniture for which he has immediate occasion. The hungry cutler too, might offer the butcher knives for his meat; but perhaps the butcher is in want of nothing less than knives, though he may be in great need of a coat; while the tailor again requires a piece of cloth, and would not take meat; and so on, without end.

This difficulty, though capable of being stated in a few words, must be exceedingly great in practice; because every man is constantly purchasing hundreds of articles, though he produces but two or three at the utmost. It must have been felt at a very early period of society, and in consequence, every prudent person would endeavour to arrange his affairs in such a way, as to have by him at all times, besides the peculiar produce of his own sort of labor, some one commodity that he imagined few persons would refuse to receive in exchange for any other. This commodity, whatever it may be, is money.

In rude communities, things very generally useful, of various kinds, are employed as money. Homer tells us that the armour of Diomede cost nine oxen, and that of Glaucus, one hundred. At present, furs are employed amongst some tribes in America; strips of cloth in Bornou. The use of cowries is common in Bengal, and many other places in the Indian peninsulas; until a few years ago, the tribute of Sylhet was wholly paid in these little shells. In some places north of the Himalaya, where salt is very precious, little sealed packets of this pass as money.

Certain of these things are more convenient than others, but not one of them, in that respect, will bear any comparison with the precious metals. Some are cumbersome, others very perishable, and none admit of a division sufficiently convenient for the purposes of civilized people. Indeed, the inequalities in the value of different articles must have had great influence in causing the introduction of metallic money. In barter, it would be extremely difficult to adjust the exchange of commodities, even after the buyer and seller had found each other out. A man in want of nails could hardly purchase so many as were worth an ox or a sheep. A bow might not be equal in value to a mat, nor an axe, nor two of either, nor one of each. Yet all such things are destroyed by being divided.

The metals, however, possess qualities which completely obviate these and many other difficulties. In the *First* place, they are divisible into the smallest pieces without any loss, as the parts can easily be re-united by fusion. We see in practice that almost every thing, however small, may be paid for exactly with a piece of money. *Secondly*, they are nearly indestructible; they

will keep any length of time, without losing in value like salt and cloth, which soon wear away by frequent handling; or costing any thing in the keeping, like cattle, which must be fed. *Thirdly*, every two portions of the same bulk are precisely equivalent in value. An ounce of pure gold from the mines of Mexico, or the banks of the Quorra, is precisely equal, in every respect, to the same quantity procured from any other part of the world. *Fourthly*, they contain great value in little bulk; and therefore may be transported easily, or kept secretly and safely. *Fifthly*, they are very steady in value; and, therefore, they are adapted, better than any thing beside, for measuring the values of other commodities, as a yard measures the various lengths of webs of cloth.

By reason of their having all these qualities in a greater degree than any other known substances, every civilized community has employed money made of the precious metals. These were not selected therefore, at first, by the sagacity of kings and statesmen, neither are they used at present, because a government makes them into coins; but both, because they are so admirably fitted to render exchange easy. Seeing that rulers constantly insist on keeping the whole business of coining and regulating money in their own hands, one would almost be induced to imagine that money was the favorite child of *their* wisdom, and that it could not live without their nursing. Nothing can be wider of the truth. Money is neither the offspring of law nor the creature of governments, like an order of nobility, or a regiment of hireling soldiers; its existence is the natural effect of man's looking round about him with a keen eye to any thing that may conduce to his own

convenience. "Gold and silver became universal money," says the philosophic statesman, Turgot, "not in consequence of any arbitrary agreement amongst men, or the intervention of any law, but by the nature and force of things."

The various metals were used at first in bars, or masses, which bore no sort of stamp. These were of course received by weight. Abraham weighed to Ephron 400 shekels of silver, the price of the field of Machpelah. It is said, however, to have been "current money of the merchant." As exchanges increased in frequency, this mode of proceeding became very troublesome. In weighing the more precious metals, gold and silver, scrupulous exactness would be required by both parties concerned: and though in dealing with those of less value, a trifling error would scarcely be worth noticing, even tolerable accuracy could be insured only by a very considerable expenditure of time and attention. It would be found almost intolerable to weigh a piece of copper every time it changed hands. But in addition to this, the dishonest might practice various frauds by adulterating the metal, while the operation of assaying is still more tedious and difficult than that of weighing. Nothing can be certainly ascertained concerning the quality of metal, unless a part of it, at least, is fairly melted in the crucible, or submitted to the action of proper solvents. To save all this trouble is the design of coined money,—pieces of metal stamped by trust-worthy, or at least trusted persons, as their voucher, that such pieces are what they appear to be.

The first stamps that were affixed to portions of metal, indicated their quality only. The impression covered but a little of the surface, and left room for the abstraction of part of the metal with-

out injury to the stamp. Such money was current in England long after the time of William the Conqueror, and we read that it passed at the Exchequer by weight. As a final improvement, therefore, coins were made, in which the impression covered both sides of the piece entirely, and sometimes its edges too, thus protecting it from being diminished, as well as from being adulterated. Such is our money at present.

The business of stamping these coins has usually, though not always, been assumed by governments. They prohibit private individuals from coining, on the pretext of protecting the community against dishonesty: and from all the metal taken to their mints to be coined, they generally abstract a portion, sometimes more than sufficient to cover the expense incurred. This, however, might be borne with, as, in return, they issue coin bearing their solemn affirmation of its purity, and of its full weight. A tolerable idea may be formed of rulers' integrity, and carefulness of their people's rights, from their conduct in the execution of this office. Dr. Smith's account of it is, "that in every country of the world, the avarice and injustice of princes and sovereign states, abusing the confidence of their subjects, have by degrees greatly diminished the real quantity of metal which had been originally contained in the coins." The English pound and penny, when Doctor Smith wrote, contained a third only, the Scots, about a thirty-sixth, and the French, about a sixty-sixth of their original value. These depreciations were effected in various ways, but always fraudulently. Philip de Valois, in his official instructions to the officers of the mint, A. D. 1350, enjoins the utmost secrecy on the subject of a proposed adulteration, even to the denial of it

with an oath: for the express purpose of deceiving the commercial classes.

Thus by artifices worthy only of the meanest sharpers, and for which indeed governments have thought proper to hang numbers of their subjects, they often contrived to pay their debts with far smaller quantities of gold and silver than were due. But their efforts to keep the debased coin in circulation, on the same terms as that which was better, never succeeded; it always came in a very short time to pass for the value of the precious metal really contained in it, and no more. Hence their jugglings with money proved ruinous to those who held the new coin during the short time it was falling to its natural level; and by causing universal revolutions in the fortunes of private persons, produced frightful confusion, and more wide spreading distress, than could have been the result of most other public calamities.

Had it not been for the hinderance of governments, who greedily seized, and zealously preserved so ample a field as coining, for the gratification of their own cupidity, there is no doubt that makers and dealers in money would now exist, every way as honest in their calling as we find the physician to whom we freely entrust our lives; and there would be no more necessity for government mints, than for government hat and knife manufactories.

From this brief view of the nature and uses of the article, we may understand how it is possible for a nation to have even too much money. Money is only the engine of circulation—the instrument by which exchanges are made easy: it has no other use. Now, only a certain number of exchanges are making in a country at the same time; and many of these will be merely transac-

tions of barter, in which no money is required. If then there is a sufficient quantity of money in the country to effect the rest conveniently, that is all there is occasion for. It will be but a small proportion of the whole wealth possessed by the community, because only a small part of that wealth is in the course of being exchanged at once. But as soon as one set of exchanges is completed, the money is instantly at liberty again to effect another, and so on. The processes are far from being so regular in practice as is here supposed, but this is the principle. When any people, therefore, become possessed of more gold and silver than is enough for their traffic, they incur a loss by keeping the superfluity*. It is something for which they have paid dearly with commodities, or labor, and which yet is of no use—a costly engine kept to do no work; and could it not be sent out of the country, in exchange for something else, its owners had much better have an inordinate quantity of boots and shoes.

Hence the mistake of thinking every possible increase in a people's gold and silver advantageous; and of endeavouring to add to it at all risks. If a large quantity of money be found in a country actively circulating, it is indeed a sign that exchanges are numerous, and, so far, the nation must be thriving. But it may be, that of a great quantity of money, much is a mere drug in the hands of the owners, which, were they to pursue their own interest aright, they would dispose of, without delay, to foreigners, for goods or raw

* The use of the precious metals, as plate, ornaments, and instruments, requires a small quantity in addition to that used as money. But this addition is comparatively so trifling, that it is only necessary to mention it, in order to show that it is not forgotten.

materials. When a country is really in want of money, it has goods to buy it, and foreigners are interested in supplying that country. The value of money rises there, in comparison with the value of goods, that is, goods become cheap; if the scarcity of money is great, much cheaper than in neighbouring countries. The foreign merchant, therefore, will send money as the most profitable article of trade he can select, taking the cheap goods in exchange; and he will continue to do this until money becomes more plentiful, and prices rise. Though goods do not always draw money so readily as money draws goods, in the long run they draw it even more necessarily than it draws them. Goods serve many other purposes besides purchasing money, but money can serve no other purpose than that of purchasing goods. The man who buys, does not always mean to sell again, but frequently to use, or consume: whereas he who sells, always means to buy again. The one may frequently have done the whole, but the other can never have done more than one-half of his business.

Most other commodities, it is said, are soon destroyed; whereas gold and silver are durable, and were it not for continual exportation, might be accumulated for ages together, to the incredible augmentation of the real wealth of the country. Nothing, therefore, it is pretended, can be more disadvantageous to any country than the trade which consists in the exchange of such lasting, for such perishable commodities. We do not however reckon that trade disadvantageous, which consists in the exchange of the hard-ware of England, for the wines of France; and yet hard-ware is a very durable commodity, and were it not for this continual exportation, might also be accumulated for

ages together to the incredible augmentation of the pots and pans of England. But it readily occurs, that it would be absurd to have more pots and pans than are sufficient for cooking the food usually consumed there. It should as readily occur, that it would be absurd to have more coins in a country than are sufficient to effect the average number and amount of exchanges. Increase the quantity of goods to be exchanged, and a part of them will be immediately sent abroad to purchase the additional quantity of coin required. But the attempt to augment the wealth of a country either by introducing, or by detaining in it, an unnecessary quantity of gold and silver, is just as fruitless as it would be to attempt to augment the good cheer of private families by obliging them to keep an unnecessary quantity of kitchen utensils. As the expense of purchasing these would diminish, instead of increasing the goodness and quantity of the family provisions, so the expense of purchasing an unnecessary quantity of money, must, in any country, diminish the wealth which feeds, clothes, and lodges, which maintains and employs, the people.

Paper-money. Paper-money is an invention of later date than metallic money; and is only its representative, being in all cases merely a *promise to pay a specific sum of coin at a certain time.* Though liable to great abuses, it is an article capable of being made extremely serviceable, by good management, to any commercial nation. Almost every government in Europe, and some of those in Asia, have issued money of this description; and as might be expected, have often broken their promises by a refusal of payment when required. Against this there is no security; the payment of such notes depends on the will of governments, and

they cannot be compelled to pay, like private individuals. But on the certainty of its being performed, the value of every promise wholly depends, and we cannot therefore be far wrong in regarding government paper-money in general as mischievous.

Commercial paper-money is something very different from this; and the advantages to be derived from it are so obvious, that it probably came into use very shortly after writing was invented. There are several kinds—Bills of Exchange, Promissory Notes issued by individuals generally, and Local Notes issued by bankers,

The use of bills of exchange will be readily understood from an example. Suppose cotton is sent from this country to England, and sold there to a merchant for a certain sum; while another English merchant exports cutlery, which is also sold to a second merchant in Bengal. Let the cotton and the cutlery be nearly equal in value. One merchant in each country then, expects payment, and one in each is also desirous of discharging a debt. Now the transmission of specie is always attended with considerable risk and expence. To evade these, the merchant in Bengal, who owes for cutlery in England, will seek out the cotton-merchant who has to receive money from the same country, and willingly pay his demand, on condition of receiving from him a written order to receive as much in England from the person there who bought the cotton. Having obtained this order, which is a bill of exchange, the purchaser of cutlery has now both a debtor and creditor in England. Instead therefore of receiving money from one, and sending it back to the other, he transmits to his creditor the order on his debtor—the purchaser of cotton,

who willingly complies with the demand made in consequence, as he is thereby saved all the trouble and expence of remitting specie to India. Thus the accounts of all parties are settled without the actual payment of money, and the risk and expence of its transmission are wholly saved.

Debts and credits to an immense amount are adjusted in this manner between merchants residing in different countries; and at no time is it necessary to transmit any thing in money but the difference between the exports and the imports, or the balance. It will be seen in the preceding example, that the cotton really pays for the cutlery, no money being used, though the value of both is measured by money.

The promissory notes, so extensively employed in all the transactions of internal traffic, probably originated in the circumstance that different commodities require different periods of time for their completion and sale. Some require very long periods. The merchant who trades with a distant port, and the manufacturer who executes an extensive project, are often obliged to borrow food and materials, or the money to buy them, giving a written promise to pay at a certain time, when they expect to have sold their commodities. Persons are found willing to accommodate a tradesman in this way, because his future produce will afford the means of payment. In the mean time, however, they themselves may require to make purchases, and in this case, as they have money, though it is lent, they will use their debtor's promise, to pay their creditors, pledging themselves also to make that promise good if he should fail. In this manner the bills circulate until they become due, and then, the person in whose

possession they happen to be, presents them for payment to the original debtor.

These bills perform all the functions of money well, and at a great deal less expence than coins. A very cheap material is substituted as the instrument of exchange for a very costly one; and yet it is so managed as to be endowed for that particular purpose with the full value of coin. In England the use of this kind of money is very great; the quantity in circulation having been estimated a few years ago, at 300 *millions* of pounds sterling, equal to 30,000 *lakhs* of rupees.

Local bank-notes are issued by private bankers. Notwithstanding the mischievous monopoly of coining held by governments, there has arisen in all countries a distinct body of men whose sole business it is to traffic in money. Being, as the rule, persons of established credit, they are entrusted with deposits of money; they settle accounts between persons who live at a distance from one another; and they lend money, receiving interest. In consequence of these transactions, their notes are even more willingly received than others; and instead of lending coin to those who apply to them for loans, they lend them their credit, in the shape of bank-notes. To the merchant, these notes are just as valuable as gold itself, both on account of the general repute of the issuers, and because the notes are made payable, *at sight*, in gold or silver, which therefore may be obtained for them whenever required. As bills of exchange generally, and many other promissory notes, are for large sums, and payable at long dates, they are frequently given to the banker in exchange for smaller notes, especially for the purpose of paying workmen.

Since governments have taken to tampering with paper-money, instead of coin, the banker's occupa-

tion has been continually suffering from their ignorance or knavery. If they ever interfered with good intentions, they seem never to have done any thing but harm. As a body, bankers are peculiarly honorable and able, and they need no assistance from the statesman. To such an extent are they voluntarily trusted in England, that they assist, in some way or other, in settling accounts, and taking care of money, for every capitalist in the kingdom. The clerks of the different banking houses in London meet daily at a place called the *Clearing House*, in order to adjust their accounts with each other. According to evidence laid before a Committee of the House of Commons, in 1810, the amount of payments made on ordinary days, at this place, was *five millions* sterling, which sum, on settling days at the stock exchange, was increased to *fourteen millions*. This is another example of the extent to which business is done independent of money, no greater sum of any kind being required than 220 *thousand* pounds on an average.

Concerning paper-money there yet remains one question no less important than curious;—are bank-notes any addition to the national wealth, or are they not?—Taking it for granted that the demands of every nation for specie are determined by the extent and activity of the exchanges negotiated in it, and that this demand in a particular instance is fully supplied; if any expedient can be devised for throwing into circulation bank-notes equal in amount to some part, say one-half of the specie, there will evidently be a superabundance of money. But a superabundance of any commodity, money in no wise being excepted, causes a diminution of its value compared with that of commodities generally. Still, such a diminution

in one country by no means implies a similar diminution in others. In this case, wherever the expedient of bank-notes has not been resorted to, there will be no superfluous money, and no alteration in its value. From the country therefore where its relative value has fallen, owing to the introduction of bank-notes, money will naturally be attracted to the spots where its relative value is the highest; that is, where it will buy the largest quantity of other goods.

The money that can emigrate in this manner, is that part only of the whole circulating medium which retains its value when sent beyond the limits of the nation; that is to say, the specie. Since, however, specie does not emigrate without an equal return, a part of the national wealth, which formerly existed in the shape of specie, and which was only employed in facilitating exchange, thenceforth assumes the shape of various raw materials or finished goods, and there follows this remarkable consequence,—that the national capital is enlarged to the full amount of all the specie exported. Nor is the internal trade at all impeded by want of money, owing to this export; for the functions of the specie that has been withdrawn, are just as well performed by its substitute —the paper-money. But in order to effect this augmentation, or rather release of national capital, it is necessary that the bank-notes should be of unquestionable credit, and payable in specie on the instant of demand. These conditions being fulfilled, the notes are equivalent to coin, and their peculiar conveniences turn the scale, causing them to be preferred to coin itself, in the country where their validity is well known, and where their issuers reside, ready to change them into coin at the holders' pleasure.

For a complete knowledge of the very complicated subject of this chapter, the reader must consult more elaborate treatises. The circumstances which fix the relative value of the precious metals,—that is, the proportions in which they shall exchange for other things,—will be determined when we come to treat of the relative value of commodities generally: gold and silver are subject to the same laws as the rest, Probably enough has been said here, to give the reader an idea of the real uses of money in facilitating exchange, and thereby extending division of labor. The evils, sometimes eloquently attributed to money by poets and moralists, do not arise from the convenient pieces of stamped metal or paper, but from the bad passions of men ;—from ambition, cupidity, deceit, prodigality, of which money is only the passive and abused servant.

CHAPTER VII.

THE ACCUMULATION OF CAPITAL: ITS EFFECTS; AND ITS ORIGIN.

Definition of Capital.—Capital of two kinds, fixed and circulating.—View of the aid which capital affords to labor.—Striking example in the case of a deserted Indian.—Every individual in a civilized community shares in the benefit derived from accumulation.—The accumulation of capital promotes division of labor.—Affords the materials of exchange.—Encourages agriculture. ORIGIN OF CAPITAL.—Profits the most important source.—The increase of the power, generally increases the desire to save.—The average rate of profit, a true indication of national prosperity or decline.—Examples, in Holland, and the United States of America.—The real advantage of accumulation consists in the circumstance, that if much is saved, much will be consumed also.—Accumulation does not require the assistance of Governments.

THE Capital of a nation is *that part of its wealth which is set apart to be used with a view to profit.* Money and goods employed by a merchant in bringing commodities from abroad, and disposing of them at home; by a manufacturer, in buying materials and paying wages; by a farmer or landholder, in building granaries and sheds, in purchasing seed, cattle, instruments of husbandry, and the labor of servants, are their capitals: and in using this term with respect to a whole nation, we only mean to signify the collective capitals of all the individuals.

The whole wealth of a community is called its *Stock*;—that part of its annual produce which may be consumed without diminishing this stock, its *Revenue*; and any portion of revenue, which, instead of being expended for present enjoyment, is reserved, or consumed so as to be reproduced with an increase, or profit, becomes *Capital*, and forms

forms an addition to previous savings of the same kind.

Capital is of two kinds ; namely, fixed and circulating. Fixed capital is that kind which yields the owner a profit while it remains in his own possession. It chiefly consists of the following articles: *First*, of all useful machines and instruments of trade, which facilitate and abridge labor. *Secondly*, of all profitable buildings, such as warehouses, work-shops, farm-houses, with their enclosures, stables, granaries, and so on. *Thirdly*, of the improvements of land; or the labor and materials which have been expended in clearing, draining, enclosing, and manuring land, or in reducing it by any other means into the state most proper for large production. Under this head may also be included bridges, roads, and canals, which are fixtures in the soil, and means of saving labor.

When from the whole capital of a nation, all things of the three preceding kinds are separated, that which remains will be circulating, or, as it is sometimes denominated, floating capital: and of this, the characteristic is, that it does not afford the owners a profit, while they keep it in their own possession, but when they part with it for some sort of remuneration to others, or consume it themselves, yet, only so, that it may be reproduced in a more valuable form. Of this class, are the money and commodities of the merchant and retailer; the subsistence or wages of the laborer; all tools worn out in one operation; all materials which contribute to production only in being consumed, such as coals, oil, dye-stuffs, together with wool, cotton, and raw materials of every kind worked up into finished articles. Under the same head must also be placed the seeds

and manure of the gardener and farmer: and the materials consumed in repairing the more durable articles of fixed capital, such as bridges, canals, roads, and engines.

Taking into consideration that these things are cited only as examples of their species, it appears that almost any article of wealth is capable of being made capital, simply by a fulfilment of the condition that it be employed for the sake of ultimate profit. Political Economists have differed greatly in their definitions of capital: but this seems to be the only characteristic which distinguishes it from wealth in general.

Thus, many articles of wealth are either capital, or not, according to the manner in which they are used. An ostrich-plume, in the hands of the merchant who imports it, and in the shop on Ludgate Hill, is capital: its owner cares little about its beauty, except as a lure for the purchaser;—worn by a lady in the ball-room, it ceases to be capital, and only contributes to adorn her person;—given to a waiting maid, and sold by her to a dealer in second-hand finery, it again becomes capital;—it will again be employed as an ornament;—and finally, perhaps, it may pass into the stock of a manufacturer, who will use it, in small pieces, to decorate the heads of dolls, or to dress artificial flies for the angler. In like manner, the clock which is bought by a manufacturer to regulate the attendance of his workmen, continues to be capital,—he profits by its use; whereas, let the same instrument be purchased by a gentleman for his servants' hall, and it loses that character altogether, becoming, like his carriage or plate, merely an article of enjoyment, which it affords by contributing to the order of his household.

Labor, aided by capital, being a picture which is always before our eyes, we cannot, without some effort, fix our attention, and set a just value, on a thing so common. We see around us the beneficial effects of capital in a thousand shapes; they await us all, even the poorest, at our birth, and constantly attend us till we die; and we are apt to look at them as matters of course: we are in fact too familiar with them to know them. But in order to obtain an adequate estimation of capital, we should take out an individual from a civilized community, and strip him, one by one, of all the luxuries, comforts, and necessaries, which are the fruits of capital, observing his deteriorated condition at each step of the process, until he stood, as he must stand at last, more naked than the wild beasts, and ten times more helpless. It is with capital as with other things, where there is much, a little will scarcely be missed. The great value of this little, however, is made evident by giving it to one who has none: of which remark the following narrative supplies a striking illustration.

In the year 1681, a Mosquito Indian was accidentally left on the island of Juan Fernandez, in the South Pacific Ocean. He was a sailor belonging to an English vessel, which had been chased away from the coast by some hostile Spanish ships. Captain Dampier, who afterwards brought him away, thus describes his condition:—"This Indian lived here alone above three years; and although he was several times sought after by the Spaniards, who knew he was left on the island, yet they could never find him. He was in the woods hunting for goats when Captain Watlin drew off his men, and the ship was under sail when he came back to shore. He had with him

his gun, and a knife, with a small horn of powder and a few shot: which being spent, he contrived a way, by notching his knife, to saw the barrel of his gun into small pieces, wherewith he made harpoons, lances, and a long knife; heating the pieces first in the fire which he struck with his gun-flint, and a piece of the barrel of his gun. The hot pieces of iron he would hammer out, and bend as he pleased with stones, and saw them with his jagged knife, or grind them to an edge by long labor, and harden them to a good temper, as there was occasion. He had learned to do these things amongst the English. With instruments made in this manner, he got such provisions as the island afforded, either goats or fish. He told us that he was obliged to eat seal, which is very coarse meat, before he had made hooks; but afterwards he never killed any seals but to make lines, cutting their skins into thongs. He had builded a little house or hut, half a mile from the sea, which was lined with goats' skins; his couch of sticks lying along about two feet from the ground was spread with the same, and was all his bedding. He had no clothes left, having worn out all he brought from Watlin's ship, but only a skin about his waist. He saw our ship the day before we came to anchor, and did believe we were English; and therefore killed three goats in the morning, before we came to anchor, and drest them with cabbage, to treat us when we came ashore."

The existence of this man seems to have depended, absolutely, on his gun barrel, his flint, and his knife,—on his capital. It is almost impossible to imagine a human being with less accumulation about him; yet what he did possess, was knowledge-made, and it enabled him to procure a regular supply of fish and goats' flesh, to light a fire and cook

his food, to construct his house, his bed, and his clothing; and upon the whole, to live in tolerable comfort, where, without that accumulation, he would probably have perished. He labored, and he labored profitably, because, together with a little knowledge—it is said he had *learned* amongst the English—he possessed a small portion of capital. The hoarded produce of a forge in England was actually supporting a life on a wild island in the Pacific Ocean.

But leaving the extreme case of the solitary being, and returning into the busy heart of society, we find that the many advantages in acquiring wealth, which are enjoyed by a nation already rich —and they are an every-day subject of remark— depend on the self-same principle. Every rich man, in his capital, possesses a great quantity of work already done, and that too in the way best adapted to assist future labor. Before the manufacturer's own work begins, he enters on possession of spacious buildings, and a vast quantity of tools and materials, which other buildings, and other tools, and other materals have been employed, perhaps for years, in making. It is of little moment, as to our present purpose, how he procured his capital, or who practised the course of industry and self-denial necessary to create and save it: the articles which constitute this capital are evidently the produce of past labor, and so far as they are employed in future production, so far the labor of that production is already performed. Nor is this advantage engrossed by those alone who are usually called wealthy men. No laborer in civilized life strictly begins the article he manufactures at the beginning: more or less is always done to his hand. Perhaps few use less capital than the fisherman: yet his nets are made, and

his hooks are fabricated by the most elaborate processes, and the most ingenious machinery.

The immense assistance derived from capital by the poorest mechanic in a civilized community, is altogether wanted, not only by an individual accidentally cut off from his fellows, but by every one, in many whole communities, concerning which the occupants of happier stations in society are by no means uninformed. To the miserable life of savages we have constant occasion for reference. Amongst them, there are little division of labor, few exchanges, and few things enjoyed, except such as are made in a short time, by the very person who consumes them: scarcely any thing is stored up to increase or facilitate future production. Every man lives, as it is called, 'from hand to mouth.' When he is hungry, he goes abroad to hunt or fish; when his apparel is worn out, he strips some large animal, and clothes himself with its skin; and when his hut falls to ruin, he repairs it, as well as he can, with the trees and turf that are nearest. In such a state human labor is comparatively powerless, and man, in spite of the fictions both of poets and philosophers, is vicious and wretched to an extreme degree.

If the power which division of labor and exchange confer on the industry of a civilized community, has been set forth with any thing like truth, nothing is needed but the proof that they could never have been established without capital, for the purpose of inducing us at once to class that with them, as an element of kindred importance in the production of wealth. This proof is easily supplied. So soon as division of labor becomes at all systematic, the produce of a man's own trade satisfies few, perhaps none, of his own wants; and in general, it takes a considerable *time* to com-

plete a saleable portion of his commodity. But his wants press on him from day to day, and even from hour to hour; and as he neither does, nor indeed can, provide for them by running away from his proper occupation, there must be laid up somewhere a stock of different commodities sufficient for his use and maintenance during the time he is engaged on a piece of work. This stock may be in his own possession, or it may be in that of another; but somewhere it must be, otherwise he could not devote all his industry to a single employment. It is by means of the capital laid up for the weaver, in the shape of tools, materials, and provisions, that he is enabled to subsist until he has completed and sold his cloth. Unless a stock of this kind existed, it would be impossible for him to confine himself to weaving. The same thing holds good in all other cases.

As from the nature of things, then, capital must have been accumulated before division of labor could take place, so, as capital increases in quantity, division of labor will be carried to a greater extent. Every master, whose capital is increased, will be able to employ a greater number of workmen at a time, and thus to make a more extensive and profitable distribution of labor amongst them. In the manufacture of woollen cloth, for example, it is necessary, in order to carry it on to the greatest advantage, that at least thirty persons should be employed, each of whom will perform only one operation. Now if the master's capital is but sufficient to provide materials and wages for the labor of twenty, it is plain that no more than twenty can be employed: one-third, therefore, of the advantage arising from a full division of labor will be lost, and the article will be less in quantity, and inferior in quality, compared with what

it would be, did the manufacturer's capital allow him to employ a greater number of workmen.

The most useful and magnificent productions of labor can never exist in nations where capital is not abundant. It is not that they do not want or that they could not use many of these productions. Wherever men live near a river, a bridge is in the highest degree useful; wherever they live distant from it, a canal. But where there is no capital, how are the swarms of savages—for such must the people be—to keep themselves alive while engaged in so extensive an undertaking. even supposing it possible for them to succeed in it were this difficulty only overcome? A bridge or a canal in no way assists production, until quite completed; but either is the work perhaps of several years. What an immense stock must be provided, to maintain the thousands of workmen, to supply the vast quantity of materials, and the innumerable tools, before such a multitude could leave all other occupations, and become bridge or canal makers for so long a time?

The fund for the support of workmen, or what is the same thing, for the payment of wages, is an item of the utmost importance in the capital of every nation; as are also the materials on which workmen are to be employed. Other things remaining the same, whenever the fund for the payment of labor increases, the remuneration of the laborers increases; they become better nurtured, more intelligent, and they augment their numbers; thus fulfilling one condition towards further subdivision of labor—that there shall be instructed men.

But without an increase of capital, it is always impossible to employ additional hands. If all the food and clothing for the support of laborers, the materials on which they work, and the machines

for the assistance of their industry, be required for the efficient employment of those already engaged, there can be no demand for others. In such circumstances, if the number of workmen be increased, they will be worse provided for. As they must live—and to live, must work—and to work, must have the use of capital, they will offer to sell their labor cheaper; the rate of wages will fall; what was the share of ten before, will be divided amongst twelve; and the whole body will sink into a lower condition—an event extremely unfavorable to the success of human industry.

Observe further: all exchanges are exchanges of capital—exchanges of articles saved from pleasure-giving consumption, in order to be made use of for profit. Whatever even a savage withholds —be it only part of a wild honey-comb, or an egg—from his own perhaps half-satisfied desires, meditating an exchange with the possessor of a superfluous bow or spear, is capital. The article for which it is exchanged is also capital; both parties have an eye to profit in their traffic, and it is plain that without capital the traffic could never take place.

During the early commercial transactions of the English with this comparatively rich country, so little capital existed, and yet so necessary was a considerable portion to carry on the trade, that they found themselves obliged to advance large sums of money to the native merchants, beforehand, and to wait a long time while the silk, cotton, and other commodities were procured or made. This, in a country where property was very insecure, must have been a great risk; but as the profits amply repaid the owner of such advances, while exchange was at a stand without them, the venture was freely made. The same

practice may be observed still, both amongst natives and Europeans.

The merchant or manufacturer, who possesses a large capital, is thereby enabled to make very profitable exchanges. He can wait to effect his sales when prices are highest, and can buy also, when they happen to be lowest. A poor nation, like a poor man, is sometimes obliged to sell at a loss, owing to want of capital, and both are also prevented from making many a profitable purchase by the same cause. And next to a people's having capital of their own, the thing most favorable to their prosperity is intercourse with foreigners who have capital. If we look at the vast amount of capital belonging to England, which is scattered abroad over the whole world—at the ships, the ware-houses, the mining instruments, the commercial establishments, the finished goods awaiting purchasers in every market—and consider also, that if commodities were not sent to many of the consumers, and even placed in their hands before paid for, those consumers could never fetch them, nor have them: but that, as must have been the case in Bengal formerly, exchange would be at a stand, its profits lost, and the variety of necessaries and luxuries in which they consist, rendered unattainable by either party to the trade;—we can scarcely fail to be convinced, in direct opposition to the short-sighted, ignoble opinions of those who regard a people in growing more wealthy as growing only more dangerous, that the accumulation of capital by a nation is in the highest degree beneficial, not only to herself, but to her poorer neighbours.

The immense wealth of England has often been regarded by foreigners with jealousy, and she in her turn has often shown distrust of her

prosperous neighbours; but surely in both cases those feelings were equally unreasonable. It is a great misfortune to be poor, but an immense aggravation of that misfortune to have only poor neighbours. To the industry and frugality of England, which have accumulated a mass of capital sufficient not only to fill the channels of circulation at home, but to permit a large surplus to overflow, invigorating the labor, and increasing the wealth, of other nations, the world is at this moment deeply indebted for a state of civilization without example in former time, ether as regards its degree and spirit, or the numbers that share in its blessings.

It would be superfluous here to dwell on machinery, in order to heighten the reader's estimate of capital. The simple considerations, that in every shape, machinery is one species of hoarded labor, and that no machinery could be constructed without the assistance of every other species, will at once induce us to admit all the beneficial effects claimed for capital, on this ground. Without a stock of materials and food, no effort of industry could be made that did not promise an almost immediate return. But very many machines do not work out their first cost for years; and though they do it at last, with the addition of a large profit, were not capital abundant, men could not afford to wait. As, therefore, it is only through capital that machines are made and used, we must ascribe to it the following effects:—it enables us to make more goods, to make them better, and to obtain many articles that without its help could not be obtained at all.

Without capital in the form of cotton-machines, how should we be able, after abundantly supplying our own wants, to export three hundred and sixty-three millions of yards of cotton cloth in a year—

to rival and excel the Dacca muslins—nay, how should we be able even to knit a pair of cotton stockings? Had nothing or little been saved, we could have builded no ships, laid down no railways, digged no canals, constructed no bridges, erected no houses full of costly, delicate, and powerful engines: all these are the fruits of ages of persevering industry and carefulness.

The fixed capital of England is indeed her great arm of production, and it includes the noblest creations of perseverance and skill that ever conferred honor and profit on human labor. Throughout the world there are no very striking inequalities in mere strength of limb; and it is mainly owing to the differences in the quantity of capital which men possess, and in the skill with which they use it, that in one country they are found naked and hungry, while in another, all the rude productions of the earth, and all the forces of nature, are made to promote their comfort, and augment their power.

Finally: the accumulation of capital exerts a highly beneficial influence on agriculture, and that in two ways; first, by supplying the inducement to improve, and second, the means of improvement. The articles of utility and luxury, which are purchased from foreigners by the merchant, and made at home by the manufacturer, stimulate the agriculturist, especially the proprietor of large estates, to increase his production by every possible means. He will even sell part of his lands to obtain materials for the improvement of the remainder; and perhaps a rich merchant becomes the purchaser, who, as Doctor Smith remarks, is the best of all improvers. In a country, says the same eminent writer, where foreign commerce and the finer manufactures are little known, a great proprietor, finding nothing for which he can exchange the

larger part of the produce of his lands, and having little inducement to save it, consumes the whole in rude hospitality at home. Hence he is always surrounded by a crowd of idle and profligate dependants, who, subsisting entirely on his bounty, are willing to do his bidding, good or bad, without questioning.

Now manufactures and commerce offer such a proprietor, in exchange for his surplus, something that he himself can consume, without the assistance of retainers,—perhaps a diamond buckle, or a costly wine. All for ourselves, and none for others, seems, in every age, to have been the maxim of the masters of mankind. As the land-holder gradually acquires a taste for personal convenience and luxury, his idle retainers are diminished in number, and at last all are dismissed. By this wholesome, though sharp measure, he is enabled not only to provide immediately for his own gratification, but to save capital for draining, manuring, road-making, the building of farm-houses, the planting of timber, the purchase of live and dead stock, and a variety of other purposes, all requiring capital, and all necessary parts of the system which raises land to its highest pitch of culture. Such as have been depicted were formerly the actual manners of landholders in England; such also have been the course and means of their improvement: and it is not a little remarkable, how exactly Doctor Smith's description of the state itself applies to wealthy natives in this country, and how probable it appears, that a similar alteration will be effected amongst them by the very same agency.

Having thus briefly explained what capital is, together with its effects on production, let us next attend to the circumstances which are most

favorable to its accumulation. According to our definitions of wealth and capital, the latter consists of commodities, which commodities are savings from the produce of former industry. When a savage, who gathers or cuts wood for dressing his food, throws a log aside from time to time, either for building a house, or exchanging with a neighbour, he lays a sufficient foundation for a capital; and in such small beginnings all the accumulated riches of the world must have originated. The origin of capital therefore is plain.

Revenue has already been described, as that part of the annual produce which a society may consume without diminishing its stock: and this is evidently the source whence all increase of capital must be derived. When the revenue of a nation is large therefore, its ability to accumulate will be large also; and the extent both of one and the other depends on the degree in which the industry of that nation is productive. Where industry is most productive, the grand annual surplus remaining after every kind of expenditure is replaced, which surplus constitutes the material for savings, will be largest; where least productive, smallest. Now as the employment of capital is extremely advantageous to production, so it must also greatly promote further accumulation, verifying the old proverb, 'Wealth breeds wealth.'

Indeed the profits of capital do, in every case, form the chief part of a civilized nation's revenue; and that part too, from which the largest savings are made. When the owner of savings, or the capitalist, employs them in production, he expects, not only to receive the same value again, but also a certain addition, as profits. On the magnitude of this addition, which when estimated by the proportion it bears to the original capital employed,

is called the *rate* of profit, depends his ability to save. If he can invest stock so as to obtain *ten per cent.*, he will be able to accumulate twice as fast as though he could obtain only *five per cent.*

Capital, however, is only dead matter—an instrument in the hands of present labor; and, like other instruments, it is utterly incapable of setting itself in motion. The maker of the first capital could not have possessed this instrument; but in a civilized community, it is so essential to production, that though some only actually possess it, none can possibly work profitably without it.

Thus, there is, so to speak, a double *necessity* for the union of capital and labor in production: capital could not be employed without labor, and labor could not be employed profitably without capital.

The large class of persons who do not possess capital, are therefore compelled—not by law, nor by their *masters*, but by the nature and force of things—to use that of the capitalist; who pays them for their labor, and takes their produce to himself. Now if the laborer, in addition to the ordinary food and clothing of persons in his condition, which must be sufficient to support the wear and tear of human life, and should be more, obtains wages large enough to afford a surplus, that is his fund for savings.

Savings derived from this source deserve to be mentioned, not because of their magnitude, but because they are in general used extremely well. It rarely happens that any but a frugal, prudent, honest, and industrious man saves from wages; and his conduct and savings together, frequently add much more to the happiness of society than the ampler accumulations of persons who command larger means. An aged man of this class, whose

youthful savings are the support of his latter days, is an example to a whole neighbourhood. It is likely that his children, industrious and careful as himself, may be assisted from time to time with small sums given by their honorable and independant parent, which, as the earnings of him who will earn no more, they will use well; and upon such capital we may almost expect the blessing of heaven.

These two, Wages and Profits, are the chief sources of accumulation; and as the return to the whole labor employed in production,—to the hoarded labor belonging to the capitalist, and to the immediate labor supplied by the workmen,—is large over what is necessary to replace both, so will the power to accumulate be large also.

Still, neither large profits, nor a large revenue of any kind, affords more than the materials of accumulation: should the will to accumulate be wanting, all would be spent on enjoyment. Had men always lived up to their incomes, that is, had they always consumed the whole produce of their industry in the gratification of their present desires, there would be no capital in the world. This they never did, because they are reasonable, provident beings. Indeed, such is the wise order of nature, that while an augmented revenue affords greater means of saving, it also, as the rule, increases the force of the inclination to save. Some few, in a very rich country, may have so much that they do not care to increase their wealth. But the number of these must be comparatively small. Men in general are actuated by a keen and constant desire of bettering their conditions—a desire which, though generally calm and dispassionate, comes with us from the womb, and never leaves us until we go down into the grave. In the

interval that separates these two moments, there is not perhaps a single instant in which any man is so contented with his condition as to be without a wish for alteration and improvement. An increase of fortune is the means by which most men propose and wish to better their condition. It is the means the most obvious and vulgar; and the most likely way of augmenting their fortune is to save some part of what they acquire, either regularly and annually, or on some extraordinary occasion.

On the contrary, the motive which gives birth to profusion, or extravagant expenditure, is a reckless desire of present enjoyment. But this, though in some cases violent, is, in general, only momentary and occasional. It prevails in most men sometimes, and in some men always; yet in the greater part of mankind, taking the whole course of their life, the principle of frugality not only predominates, but predominates very greatly.

Economy, like many other virtues, will however, be generally carried to a greater extent, as its reward appears more certain and immediate. Before a man can save, he must live; and if the sum that remains after his necessary expenditure is deducted, be but trifling, it is probable that he will choose to spend it at once, rather than to hoard it up, in the expectation that, assisted by future savings, slowly and painfully made, it may produce, at some distant period, a small addition to his income. But when the surplus is large, the object of pursuit is evident and alluring: we are induced to deny ourselves many present gratifications, because we have a prospect of speedily obtaining, in comparative affluence, a large reward for our forbearance. High profits, and high wages, therefore, are favorable to accumulation, not only in supplying the means, but in stimulating the

will: they are indeed infallible symptoms of national prosperity.

It appears, therefore, that the disposition to save may be always reckoned upon as watching for the means, or materials, and we need be solicitous only about them. They are to be found, principally in wages and profits, as we have before said; but wages, important as they are on other grounds, viewed only in relation to the question of saving, must be held of inferior conseqnence compared with profits, simply because these latter are a fund much larger in amount. For this reason, amongst others, profits are a subject of almost as much importance in treatises on political economy, as they are in the account books of the merchant.

Indeed it is asserted by McCulloch, with every appearance of truth, that the average rate of profit is the true indicator of national prosperity and decay. A permanent and universal rise of profits is a sign that industry has become more productive in the nation where it takes place, affording a moral certainty that capital and population will increase. A permanent and universal fall of profits, on the contrary, is a sign that industry has become less productive, and it must follow, that the power to amass capital is diminished, and the progress of society impeded.

How much soever one, it may be an important branch of industry, is depressed, still if the average rate of profit is high, we may be certain that the particular depression will not continue, and that the condition of the country is really prosperous. On the other hand, though there should be no particular distress in any branch; though agriculture, manufactures, and commerce should have reached a higher condition than they ever reached before; though a nation should possess numerous, brave,

and well-appointed armies and fleets, and though the style of living amongst its higher classes should be more than ordinarily sumptuous; still, if the rate of profit has become comparatively low, we may confidently affirm that the condition of this nation, how flourishing soever in appearance, is unsound at bottom; that the plague of poverty is secretly creeping on her citizens, and that her visible decline will follow, unless measures can be devised, which, by increasing the productiveness of industry, shall increase the rate of profit.

The modern history of the world affords two remarkable instances which strongly support the foregoing statements. These are Holland and the United States of America. The Republic of Holland reached the zenith of its prosperity about the middle of the seventeenth century. From that time may be dated a gradual decline in its opulence and power; and though since the year 1814, some improvement has taken place in its condition, Holland at present maintains nothing like its former rank amongst nations. At the commencement of this decline, the rate of profit had become comparatively low, and it continued to decrease. When Doctor Smith wrote, about 50 years ago, the Dutch lent money to their Government at 2 *per cent.*, while in England, the interest of similar loans was 4 or 5 *per cent.* Yet as this people had accumulated immense wealth in better times, the low rate of profit, a circumstance which had not then been fully investigated, though it did excite much curiosity and discussion, was sometimes pronounced even favorable to the national prosperity. Now, however, there can be little question that it was the effect of a decrease in the productiveness of the national industry, a cause of the national declension, and a sign from which that declension

might have been predicted. Those who once held the contrary opinion were misled by looking only to the actual condition of the nation; to the wealth and luxury of her merchant; the number of her ships of war and of burthen; the magnitude and variety of her commercial transactions; for it is difficult to see on what grounds small gains could be considered as favorable to further accumulation. Time has removed the mistake, along with its causes; and we see that it is not from present wealth alone, but from this, along with the opportunity of using it to advantage, that we can safely predict future increase.

This is made still more evident by the case of the United States. Here, it is not the absolute amount of wealth that is extraordinary, but the rapidity with which it has been acquired; an immediate consequence of a high rate of profit, which both renders accumulation easy and allures capital from abroad. Owing to circumstances which can never occur but in colonies, where the capital, knowledge, and labor of civilized men are applied to a rich and unappropriated country, where there are no tithes, few taxes, and where an abundance of excellent land may be had for little or nothing, the fruitfulness of industry has been extreme in North America, affording much for wages, and yet leaving much for profits. The average rate of profit there has always been double that in England or France; and consequently, the progress of the American Republic in wealth, population, and power has been such, that another instance of the like cannot be pointed out in the history of the world.

The natural advantages of a country, however distinguished, cannot raise her to greatness, unless they are assisted by economy. But in this there

must be nothing mean or sordid. Consumption is the final cause, the end of saving, as well as of production; and the circumstance which renders saving so highly conducive to the well being of mankind, is that if much is saved, much will be consumed also. Indeed an increasing consumption is necessary to a state of continued prosperity. If more were not consumed, because much had been saved and employed, savings would at length become useless, and capital would cease to be wealth. The produce increasing year after year, while the consumption remained stationary, something must at last stand still: for men will not save and toil without a motive.

There seems, however, but little reason to apprehend that saving will ever be carried too far. We are all willing enough to consume, the instant we can do so without fear of want; and we save with this design. It it usually seen, that a prosperous individual gradually increases his expenses; and prosperous communities, like individuals, increase their consumption and their capitals at the same time. There is an ever-growing consumption, and to supply it, there is an ever- growing production, all increase in which must be derived from the employment of former savings.

To ensure future prosperity the production, besides supplying this growing consumption, must be sufficient to afford the materials of future savings; and to make it sufficient, is a problem that will forever keep man's sagacity on the stretch. There may be a point somewhere, beyond which it would be injurious to carry the principle of saving; but we need *not* fear that men will soon reach this point: and the great object of a community should be to establish a regular increase of capital.

In conclusion, it may be remarked, that the

accumulation of capital, a practice which originates in one of the most obvious and active principles in human nature—the desire of 'rising in the world' —does not at all need the officious and treacherous assistance of statesmen. Let them keep to their legitimate province of affording protection to the people, (taking care, however, not to ruin them by profuse expenditure, on the pretext of doing so.) and there is no fear that a nation will ever be brought to poverty, either by private misuse or prodigality. "It is the highest impertinence and presumption in kings and ministers," says Doctor Smith, "to pretend to watch over the economy of private people, and control their expenditure, either by sumptuary laws, or by prohibiting the importation of foreign luxuries. They are themselves, always, and without exception, the greatest spendthrifts in society. Let them look after their own expense, and they may safely trust private people with their's. If their own extravagance does not ruin the state, that of the subject never will." The precepts and reproaches of Doctor Smith are well applied.

In most countries, a great part of the public revenue is expended in maintaining unproductive hands. Such are the persons who generally compose a numerous and splendid court; rich and extravagant establishments; great fleets and armies, which in time of peace produce nothing, and in time of war acquire nothing that can compensate for the expence of maintaining them, even while the war continues. These are all maintained by the produce of other men's labor. When multiplied therefore to a great extent, which in nine cases out of ten is unnecessary, they may consume so large a share of that produce, as not to leave enough for the proper maintenance of the produc-

tive members of society. Governments are necessary, and taxes are necessary; but the wasteful expenditure in which Governments often indulge, and the oppressive taxes levied solely for this reason, must at least greatly impede, if they do not altogether obstruct, the accumulation of capital, and the course of national prosperity in general.

CHAPTER VIII.

SECURITY OF PROPERTY.

Security of Property the joint effect of natural and social laws —Illustration of the apparent evils that attend appropriation— Arguments in its favor—It prevents disputes—Increases the produce of the earth—Is necessary to the existence of accumulation, exchange, and division of labor—Disastrous consequences of any thing which tends to weaken and destroy security of property—Governments necessary for its protection— Have often been false to the trust—Their extortion, if continued, certain to ruin a nation—Examples in Turkey, Sicily, Persia—Violations of the property which men have in their own limbs and minds—Refutation of the assertion that the right of property wrongs the poor.

THE last in our catalogue of circumstances which accelerate the progress of wealth, is Security of Property. Unlike knowledge, division of labor, exchange, and accumulation of capital, which governments cannot assist, security of property is an object, for the complete attainment of which, their aid is absolutely necessary. Yet that all men shall safely keep, and freely dispose of, what their own hands have made or procured, is clearly a *natural* law. The reason of every man on the earth tells him, not only that he himself should be suffered to enjoy the fruits of his labor, but that others should be equally free to enjoy the fruits of *their's*. Yet as reason is often too weak for a successful contest with the passions, civil government steps in and enforces on the will, that obedience which reason has already sanctioned,—an obedience nothing like slavery, being only the submission of each for the good of all. Security of property therefore is a mixed circumstance; the joint effect of natural law and social regulations.

"If you should see a flock of pigeons in a field of corn," says Doctor Paley, "and if (instead of each picking where and what it liked, taking just as much as it wanted and no more), you should see ninety-nine of them gathering all they got into a heap; reserving nothing for themselves, but the chaff and the refuse; keeping this heap for one, and that the weakest, perhaps worst pigeon of the flock; sitting round, and looking on all the winter, while one was devouring, throwing about, and wasting it; and if a pigeon more hardy or hungry than the rest, touched a grain of the hoard, all the others flying upon it, and tearing it to pieces: if you should see this, you would see nothing more than what is every day practised and established amongst men. Amongst men, you see the ninety and nine toiling and scraping together superfluities, for one (and that one too, often the weakest and worst of the whole set, a child, a woman, a madman, or a fool; getting nothing for themselves all the while, but a little of the coarsest of the provision which their own industry produces; looking quietly on while they see the fruits of their labor spent or spoiled; and if one of their number take or touch a particle of the hoard, the others joining against him and hanging him for the theft*." Yet this state of things is almost a necessary effect of complete security of property; which therefore, in order to be pronounced just and expedient, must be sanctioned by reasons of no common weight.

Perhaps, while mankind subsisted only on the spontaneous productions of the earth, so long as there was abundance for all, little that we call 'property,' existed. Each gathered enough to satisfy his own immediate wants, and left whatever remained free to his neighbour. But when, owing to the increase of people, the probability of scarcity forced itself into

* Paley's Moral and Political Philosophy.

notice, all would take the alarm, every man for himself would be the cry, and appropriation would instantly commence. Now, where there is not enough for all and no rule exists to adjust the distribution of what there is, war, bloodshed, and confusion, are inevitable. Upon the plea, either real or pretended, of necessity, the worst passions of humanity will be let loose; all men will be tyrants or slaves by turns, as they happen to meet with stronger or weaker men than themselves; the feeble, including the wise and good, who generally rank amongst the feeble, will fare the worst; and the right of the strongest only will be acknowledged; *they* will waste and others will want. To prevent all these evils, which in different degrees will affect every one, strong or weak, there must be appropriation.

Besides, even could peace be maintained without this measure, it must quickly appear, that unless each man's share was allotted and secured to him, the fruits of the earth would never be suffered to ripen: in spite of great scarcity, there would be great waste. We may learn this from the examples seen at present, in a fruit-tree by the way-side, or the grass of a common pasture; neither of which are ever of much service to any one, because, though no dispute arise concerning them, people will not wait for the proper season of taking possession. It must be the same with all the fruits of the earth, where all are common: each person will reflect, that notwithstanding their immaturity, he had better take them at once, as they are, then leave them to be taken by the next comer. Thus plenty is destroyed in the bud.

But when we consider the actual condition of man,—that, as the rule, he eats bread for which he has paid with the sweat of his brow,—the necessity for appropriation becomes, if possible, still more

clear and urgent. Who would be found willing to shelter and feed cattle, or to cultivate the ground, if after months and years of care and toil, when his flocks and herds had become numerous, and his harvests ripe for the sickle, strangers were allowed to rob him of the fruits of his industry? The motive which excites men to labor, is the hope of enjoyment; and where this is entirely wanting, no voluntary labor will be performed. On the other hand, as their expectation of enjoying whatever they can make or procure by labor, approaches to certainty, so will the ardour and perseverance of their efforts increase.

On this ground, rest the reason and justification of property in land. It is undoubtedly the will of God, that the earth should be made to yield all that it will yield; and this cannot be accomplished, unless it is parcelled out amongst individuals. None would clear away the forests, drain the marshes, plant fences, erect buildings, manure the soil—operations of which the full benefit is not reaped for ages—if instead of enjoying the land on which he had thus expended his labor, and leaving it to his children after him, he were liable to be expelled by the first who cast a greedy eye on its improvements, or even were he obliged to throw it into a common stock at his death.

Where there *is* property, and where it is even tolerably secure, until this last step, the appropriation of the land, is taken, the people must remain poor and barbarous. In fact, they will remain hunters and fishers; the cultivation of the soil will never be undertaken. The Indians amongst whom Tanner lived, exhausted a territory five or six times as large as England, though their numbers did not exceed a few thousands. Each savage had a thousand acres for his maintenance, each

labored hard; but many died of hunger, because they did not cultivate the ground; and they did not cultivate the ground, because they had not divided it amongst them.

No doubt men must labor, even on the worst conditions; perhaps they will be driven to cultivate the soil at length; their ploughing and sowing will add something to their chances of eating. But unless they have a well-founded expectation of enjoying the whole benefit of their care, by continued possession, and the power of bequest, the land will never be completely cultivated. Their labor, at best, will be such as that of the Syrian peasant, who with the left hand guides his miserable plough, and in the right grasps his spear or musket, ready for the expected assault. The vicinity of those houseless and landless marauders, the Arabs, here makes the plough-tail a post of danger; which of course is quitted as soon as possible, and which indeed would never be occupied, were there any other chance of escaping starvation. When labor and its reward do not go together, it is in vain to expect that men will rise early, and seek their beds late; rack their inventions, and exhaust their bodies; in short, that they will do as we see men around us doing continually.

As God then has made the appropriation of the land necessary to its complete cultivation, we conclude that this appropriation is agreeable to his will and therefore RIGHT.

Nothing can be more evident than the inseparable union that exists between security of property and all the other circumstances set forth as contributing to the increase of wealth. Division of labor, accumulation of capital, exchange, and even knowledge, must stand or fall with this: it is the key-stone of the arch. To begin with the accumu-

lation of capital, or the saving of produce from consumption. We may lay it down as a certainty, that no man will ever deny himself a present gratification, unless he expects to reap some advantage from his forbearance: he will spend all he gets, on the principle of enjoying it while he can. Destroy security of property, therefore, and the accumulation of capital is cut short at once. It then follows immediately, that there can be no further exchange; for all exchanges are exchanges of capital. No man will expose his goods where he is more likely to meet with a robber than a customer; no man will in future save any thing to exchange. On exchange and capital, division of labor is absolutely dependent; take away either, and this cannot exist a moment. Without security of property, therefore, all must perish. The key-stone is struck out of the arch; society is resolved into its savage elements; knowledge and skill are lost in the general ruin; one step is made of the whole way back from civilization to barbarism.

Of course, these consequences rest on a supposition that the annihilation of 'property' is complete; that all the laws, customs, and opinions with which, in every civilized community, property is fenced around, are broken through. This is an extreme case, and its evils are manifest. Security of property however, is a thing of degrees; it varies greatly in different communities, and at different times. though it is never entirely wanting any where; society could not exist if it were. But taking the actual security of property found in a nation, as a fixed point from which to set out, it is evident, that any step taken in the direction of the extreme insecurity we have supposed, must carry this nation so far amongst evils, which grow thicker and thicker at every remove towards that extreme, until at last they become

exactly such as have been described. This has been denied: though it seems almost self-evident.

The cloth trade of Verviers, a town in France, was ruined by the thefts committed on the manufacture in its various stages; which amounted to eight per cent. on the value of the article when finished. The immorality of the people drove away the capitalists to other places, where the rights of property were more respected. Even slighter and less obvious causes than this, first check the employment, and then the accumulation of capital. The frequent agitation of questions concerning an equal distribution of property, popular commotions which set the government in peril, violent quarrels between workmen and masters, and many other circumstances that weaken, though perhaps not so directly, the general faith of man in man, are followed by the same disastrous consequence.

The instant that doubt and dread is created in the breast of the capitalist, credit is withdrawn, labor is suspended; the tools and machines remain, but production languishes. The stock of circulating capital for the maintenance of labor may, for the most part, continue to exist; but it does not reach the laborer through the usual channels. Then men say—and say truly—confidence is shaken; the usual order of society is disturbed, capital fences itself around with extreme caution, hesitates to go on accumulating, refuses to put itself in peril, withdraws, in a great measure, from the business of production,

"Spreads its light wings, and in a moment flies."

Being the only means, therefore, of preventing endless disputes, of preserving the fruits of the earth to maturity, of inducing men to labor, and to labor with all their might, of establishing and preserving a system of accumulation and exchange; the

institution of property, and the protection of it by some adequate authority, are measures absolutely essential to the production of wealth. Until these were generally adopted, the condition of society must have been that which the poet describes:—

> ———" The worst of brutes, was man;
> On his own wretched kind he, ruthless, preyed:
> The strongest still the weakest over-ran;
> In every country mighty robbers swayed,
> And guile, or ruffian force was all their trade,
> Life was a scene of rapine, want, and woe."

Were all men industrious, frugal, and honest, the reasonableness of the rule, that each man shall enjoy the fruits of his own labor in peace and quietness, would be authority sufficient to ensure its being observed. But many are idle and profligate, and as such constantly lust after the wealth of others, unless they were restrained by the united power of society, placed in the hands of one or a few, their depredations would give rise to a feeling of insecurity that must paralyse industry, and eventually sink all classes into poverty, misery, and vice like their own. It has been maintained, that civil government was established *chiefly* for the protection of property; but be that as it may, in discharging this duty well, and in no other way, can governments materially assist the progress of wealth.

This assertion, however, if true to the letter, detracts nothing from their real importance to society. It is impossible that any considerable development of the faculties of man, of the productive powers of the earth or of the assistance which both derive from capital, could have taken place, in any nation, before the land was appropriated, and property in general protected by laws. But the same protection that was necessary at first, is equally necessary to

every subsequent step in the progress of society; or rather, as society moves onward, this protection of property must be rendered more and more effectual. Governments, therefore, are necessary in every stage of human improvement; at least no community has ever appeared hitherto, in which they could be dispensed with.

This is a rational ground for respecting civil governments. Security of property is the very foundation-stone of opulence, and the whole fabric of civilization; it saves the world from scenes of rapine, famine, murder, and trouble, such as no tongue can tell; and so far as governments maintain it, they deserve, and they will receive, the respect and obedience of every reasonable and just person.

But instead of discharging this duty—instead of being the most active, as well as the most able defenders of property, they are often its most reckless violators. When their perfidy is successful, it proves the heaviest calamity that can befal a nation; and even when unsuccessful, it often sheds streams of blood, lights up the flames of civil war, and brings flourishing nations to the verge of ruin. The latter was the case in England when the people began to resist the robber and hypocrite Charles the First, since strangely called—*Royal Martyr*.

Still the effects of civil war, dreadful as they are, may be endured, and will often be quickly repaired; but under a continued system of extortion and tyranny in the form of a government, nothing can support a nation. This chiefly, has ruined the Ottoman dominions in Europe. When the Turkish conquerors over-ran those fertile and beautiful countries, they parcelled out the land amongst their followers, on condition of receiving from them certain military service. But none of these estates were

ever made hereditary: they all revert, at the death of an occupant, to the Sultan; who is thus sole proprietor of all the fixed property in the empire.

The holders of land in Turkey, having therefore no certainty that, at their death, their possessions will be suffered to descend to their children, are careless of futurity, and will not make any improvement the whole advantage of which they do not expect to exhaust during their own lives. This is the reason why the Turks are so careless about their houses. They never build with solid and durable materials, because they desire that the house should serve only their own need; and they would even rejoice in knowing that it would fall to pieces when they themselves breathed their last.

Nor are they in general anxious to accumulate personal property, because as their wealth increases, their heads become insecure. A rich man is not unfrequently accused of crimes, condemned, and fined, or perhaps murdered, solely for the sake of his wealth. The stated public burthens to which the Turks are subject, bear no comparison in amount to those of the Dutch, the French, or the English. Any of the latter people, however, know that when these are paid the rest of their property is safe; while the Turk has no security that after he has paid the regular tax, the Pacha, or one of his creatures, will not strip him of every thing else he possesses. Under this miserable system, the palaces have been changed to hovels, the cities to villages: long-continued want of security has quenched every spark of enterprize; and tyranny has here finished its work,—it has destroyed not only the power, but the very desire of improvement.

We are accustomed to hear of the pomp and luxury of the court of Persia; of the delights

of the seraglios, palaces and gardens; of the lamps, the music, the dancing, the perfumes, the silks, the gold, the diamonds. But as the laws of the country do not protect property, these can be but the uncertain luxuries of a few—of the powerful—wrung without mercy from the necessities of millions. A recent traveller in Persia thus describes a part of the country: "The plain of Yezed Kaust," says he, "presented a truly lamentable picture of the general decline of property in Persia. Ruins of large villages thickly scattered about, with the skeleton-like walls of caravansaries and gardens, all telling of better times, stood like *memento-moris* to kingdoms and governments; and the whole plain was dotted over with small mounds, which indicate the course of cannauts (artificial streams for watering the soil), once the source of riches and fertility, now all choked up and dry, for there is neither man nor cultivation to require their aid." The causes of this desolation are obvious. "Such is the character of the rulers," says Mr. Frazer, "that the only measure of their demands is the power to extort on the one hand, and the ability to give or withhold on the other." Where such a system prevails, all labor is grudged, and all accumulated labor is concealed; it cannot freely and openly come forth to assist new labor.

Mr. Brydone, a traveller in Sicily, states, that those intelligent Sicilians to whom he mentioned the natural riches of their celebrated island, usually rejoined, "Yes, if these were displayed, you would have reason, indeed, to speak of them. Look at these mountains, they contain rich veins of every metal, and many of the old Roman mines still remain. But to what end should we explore them? *It is not we that should reap the profit.* Nay, the

discovery of anything very rich might possibly prove the ruin of its possessor. In our present situation, the hidden treasures of the island must ever remain secret. Were we happy enough to enjoy the blessings of your government, you might call us rich. Many doors of opulence would then be opened, which now are not even thought of, and we should soon re-assume our ancient name and consequence." Unhappily there are too many instances of this kind to be found, especially amongst the nations of Asia; and we may safely assert, that no other government in this quarter of the world, affords that security to property which is enjoyed under the British Government of India. Something, perhaps most people will think much, is exacted; but it is exacted by law, at least, and there is a firm conviction that the rest is safe. From the necessity of governments for the protection of property, and the striking evidences of their vast power either for good or evil, we may learn two things: first, that all their reasonable demands should be paid willingly, accompanied with ample obedience and respect; and secondly, that their proceedings should be narrowly watched by all. The character of a 'village politician' has often been laughed at; but if due attention to what nearly and dearly concerns every man is to be thought ridiculous, let those who think so, laugh on.

But the right of property is violated, not only when men are robbed of the produce of their labor; it is violated also when their labor itself is either forced to act, or hindered from acting, contrary to their own pleasure. The complete property which every man has in himself, being the origin of all his other possessions, is, above all other, precious and sacred. To nothing is a man's right so valuable as to his limbs and mind, and to nothing is it so

indisputable. He connot have begged, nor borrowed, nor filched, nor usurped these: possession is the infallible proof of the possessor's right. Violations of this right therefore must be ranked amongst the greatest of crimes. Yet they are frequently committed, sometimes alone but usually in conjunction with that inferior trespass which consists in preventing men from employing their capital as they will. Such violations of property too, are frequently committed, not so much by governments as by the people themselves. Men seldom willingly endure the rapacity of their rulers; but one part of a community has often unjustly pressed them to prevent others from pursuing their interest in their own way. Rulers have always been found willing enough to comply with such demands; and thus to trespass against property far more than they would do by any common exactions.

Thus, the common property of the society is violated by the laws which establish a monopoly*: the majority are shut out from applying their labor and capital in one direction. The property of the landholder is violated, when he is compelled to adopt a

* There appears to be one kind of monopoly, the Patent, which is both just and expedient. The time, labor, and ingenuity, of the person who invents a new machine, or new process in the arts, well deserve to be rewarded; and beside, the reward is usually the motive which leads to the invention. By securing the benefit of using a new machine, or of making it for others, during a specific time, to the inventor, those who profit by his ingenuity will pay its reward; which is thus also, with considerable exactness proportioned to his desert: for if the machine is of great utility, many will buy it; if of little, few; and if not superior to those already in use, none. Similar arguments may be used for the copy-right of books. Besides these two, however, there are very few cases indeed, in which restrictions on industry are not injurious and unjust.

prescribed system of cultivation, or to cultivate any particular article, even if it should be profitable. The property of the capitalist is violated, when he is compelled to accept of a certain rate of interest. The property of the laborer is violated, when he is compelled to work or to dwell in any place, or to work at any particular employment, or to forbear working at the same, or to accept of lower wages than he might otherwise procure.

History is rather the narrative of the follies and crimes of the rich, than of the wrongs and sufferings of the poor; but still it contains evidence sufficient to prove that the rights of the laborer have been shamefully violated by his superiors, in all ages: and that as a just punishment, the calamities resulting therefrom commonly, perhaps it may be said, always, fall on the whole community.

Thus the existence of slavery amongst the ancients was extremely detrimental both to their progress in wealth, and to their morality. The Romans were rich because they plundered other nations; but their own agriculture, being entrused to slaves, was so wretchedly performed, that Columella, a writer on rural affairs, says, the crops continued to fall off year after year, until an opinion generally prevailed that the earth was growing old, and losing its powers.

Wherever slavery exists at the present day, we see feeble production, general poverty, and national weakness. The nobility of Poland, jealous to an extreme of their own liberty, utterly deny the same to their vassals. The consequence is, that Poland, though the most prolific in corn, is the poorest country of Europe: and the haughty and unjust nobles themselves are compelled to endure the yoke of a Russian master. What care the millions of serfs, who, if animated by the spirit of

freemen, might sweep every Russian from the soil, for the humiliation of their masters? why should any one of them peril life and limb to win a freedom which would leave him as much as ever a slave?

We are here again forced into conflict with the great tyrant of this country, Custom. The right of every man to use his bodily and mental abilities as he will, a right at once the most plain and most precious of all that pertain to humanity, suffers a permanent violation in the person of every Hindu. Instead of being free to adjust his labor and rest as he may find most agreeable to his health, interest, or inclination, he is compelled to observe long and wearisome fasts and festivals, which emaciate his body, injure his health, foster indolence, and dissipate his substance. Instead of being free to employ his natural talents in the mode to which they are best fitted, he is chained to one occupation for life, like a galley-slave to the oar. Even his teeth and taste are not absolutely his own, for instead of being at liberty to nourish his frame with any part whatever of the profusion which Nature has scattered around him, he is compelled to abstain from a variety of the most pleasant and wholesome meats and drinks. The crime, and the sufferers, here, are plain; but where are we to look for the criminal? Not to the government, as in Turkey, nor to a slave-driver, as in the West India islands: the Hindus are a people that sin against themselves; and we must regard them as we would regard an individual who used his right hand to maim or shackle his left,—that is, with pity, or indignation, as we judge him to be more a madman, or a perverse fool. Were he wronged by another, we might help him to freedom, or to vengeance: as it is, we can only persuade him to be free.

Thus with the Hindus, argument and persuasion are the only weapons that can be employed in their own favor, against themselves and against the erroneous principles of their social constitution.

We may point to the evil influence which these principles exert on the progress of knowledge, on the practice of the arts, on the national character and condition; and show that they clash with the first demands of natural justice, and must therefore be contrary to the will of God—of their God and ours.—But we can go no farther. The matter is one of opinion, and must be left, for its remedy, to the silent working of augmented knowledge.

In writing these pages, the intention is rather to set forth truth, than to expose errors; but there is one error afloat, in the shape of an objection against the right of property, which is so specious, and yet so dangerous; so fitted to stir up the passions of poor men, and yet so certain to overwhelm them with distress in consequence; so artfully invested with an air of philanthropy by its supporters, and yet so often used by them with the basest and most selfish designs, that it deserves notice and demands refutation.

The error alluded to is this,—that the right of property, though advantageous to the rich, is a vast injury to the poor; that it condemns the greater part of mankind to poverty, for the undue exaltation of a few. Now the fact is, that security of property has made wealth, not poverty; wherever security of property does not exist, poverty is universal. This institution, when complete, gives no man any advantage above others, but deals out strict justice to all. It says merely, labor and none shall rob you. It cannot make all men rich, because it cannot make all men frugal, industrious, and fortunate; but it does more than any other

institution of civilized society towards producing that wealth and comfort which in some degree or other is enjoyed by all. "To enjoy immediately," says Bentham, "to enjoy without previous labor, is the natural inclination of man. This inclination must be restrained, for its obvious tendency is to arm those who have not against those who have." The law which subdues this inclination is not a shield to protect a few favorites of fortune; but the rampart which all classes of society have raised against their common foes, rapine, poverty, tyranny, murder. Should this rampart ever be broken down, the rich man will indeed become poor; but the poor man will never become rich: all must be degraded to barbarians, equally needy, and miserable.

The mischievous complaint that the laborer is not allowed to work unless his labor give a profit to the capitalist, and that he is thereby grievously wronged, may be met with the most perfect confidence, and totally silenced, if those who make it will listen to reason. If they mean that no capital should exist, farewell to all the advantages of capital: we must work, and live from hand to mouth, like savages; in fact, we must *be* savages. The poorest man living in a civilized country, though every foot of land is appropriated, and the laws instantly punish him for laying a finger on his richer neighbour's goods, does nevertheless enjoy comforts and conveniences which even the chief of a horde of savages, amongst whom property is in a great measure common, can never possess. "The advantages of capital and skill," to use the language of Sir J. Herschell, "are in their very nature *diffusive*, and cannot be enjoyed in any exclusive manner by a few." To produce a state of things in which the physical advantages of civilized life exist in a high degree, the stimulus of increasing comforts, and

constantly elevated desires, must have been felt by millions: since it is not in the power of a few individuals to create that wide demand for useful and ingenious articles, which alone can lead to great and rapid improvements, unless backed by that arising from the speedy diffusion of the same advantages amongst the mass of mankind."

But the objectors with whom we are engaged, do not mean that there should be no capital; they admit the advantages of saving and using it, but deny the title of the present owners to its profits. The accumulations of former labor, therefore, according to this, should belong to the present laborers; for if the capitalist is to receive no profit, he may as well give up the trouble of looking after his capital. But as well might all capital be destroyed; for should it ever happen, as this doctrine would have it, that all the savings possessed by capitalists were divided amongst the present laborers, there could not be enough to satisfy all, and therefore some must still labor without capital.

But these will be many and they will be strong, and in the face of such a precedent, who is to bar their claim on the new capitalist? He no doubt will do what he can to keep them laborers: instead of making new accumulations for *their* use and profit, he will set about consuming what he has acquired so cheaply, in the quickest way possible.

Accumulation is then at an end: the old stocks will be spent without object, or destroyed by violence; (for it is impossible in such circumstances that strife and bloodshed should not ensue.) Every band of civilized life will be broken; society will run riot; and all classes, in the end, will be dragged down to utter barbarism. The poor, therefore, are equally interested with the rich, in maintaining the inviolability of property. So long

as human nature is what it is, there will be poor men few or many; these must labor; their labor cannot work profitably without previous accumulation; being poor, they cannot possess this themselves; and none will provide it for the assistance of another's labor, unless they are to reap some of the fruits of their carefulness; some, we say, for it is impossible that they can ever engross them all. The poor may justly assert the equality of their *rights;* but this is all; they have no claim to an equality of *possessions.* Their equal rights are protected by the institution of property; and the law which, restraining the inclination of man to enjoy without labor, secures to all the quiet enjoyment of that for which they have labored, may justly be considered the happiest and noblest achievement of legislation; the sheet-anchor of the vessel which carries our morals, our peace, and our happiness.

PART THE SECOND:

DISTRIBUTION.

VALUE : PRICE ; DEMAND AND SUPPLY ; COST OF PRODUCTION.

VALUE.—Definition of exchangeable value.—No article of wealth is constant in value.—Nothing can be a *perfect* measure of value.—Examples of the inaccuracy of silver and corn. PRICE.—Distinction between price and value.—Prices may rise while value falls.—Reasons why price is made the practical measure of value.—The conditions under which it is an accurate or an inaccurate measure. DEMAND AND SUPPLY.—The principle which invariably determines the market prices of articles, is the relation of the demand to the supply.—Illustrations. COST.—Average prices determined by the cost of production.—Variations of price are permanent only when supported by variations in cost.—The constituent elements of cost, and of price, are labor and profits.—Rent excluded.—All produce divided between land-owners, laborers, and capitalists.

THE production of wealth is followed by the distribution of what has been produced. We should now therefore proceed to investigate the circumstances which influence distribution. But for the sake of order and clearness in the conduct of that investigation, it will be proper, first, to clear the way for it, by endeavouring to fix the meaning of several terms that must be employed; and also to describe, briefly, the things to which they are affixed. The terms themselves are these: Value, Price, Demand and Supply, Cost of Production; concerning some of which it may be remarked, that they have long been watch-words of strife amongst political economists, that men of equal reputation have maintained the most contradictory opinions concerning their import and

application, and that though an adjustment of the disputes they have excited is greatly to be desired, as yet no attempt, made with this design, has proved effectual.

VALUE. The most popular meaning of the term Value, when applied to articles of wealth, is simply *the capacity of purchasing*. The value of any one thing therefore consists in its capacity of purchasing other things; and as this is greater or less, its value is greater or less.

In common discourse, however, the term bears another meaning also. We say of numberless things, such as water, air, health, strength, reputation, which for different reasons cannot be exchanged, that they are extremely valuable; meaning, that they are of great utility. Nor in this use of the term does there appear to be any reference whatever to exchange, either real or imaginary; we view the objects in themselves, not in their relation to other objects.

Thus we have two distinct meanings of the term Value. Both are capable of being applied to almost every article of wealth; and though if they are carefully distinguished, there can be no impropriety in so applying them, they have certainly been found very apt to produce error, by running into each other. To guard against this, political economists have called the first exchangeable or relative value; the latter, absolute value, real value, and value in use. For the term absolute value, as it has now been defined, we have little occasion. Political economy considers wealth peculiarly as the subject of exchanges; indeed so prominent is this view, that some have proposed calling the science itself the Philosophy of Exchanges.

Our attention therefore will be restricted to exchangeable value.

There are some commodities, the exchangeable value of which is determined by their scarcity alone. No labor can increase the quantity of such goods, and therefore their value cannot be lowered by an increased supply. Rare statues and pictures, scarce books and coins, curious wines, which can be made only from grapes grown on a particular soil, of which there is but a small extent, are all of this description. Their value is wholly independent of the quantity of labor originally required for their production, and varies with the varying wealth and inclinations of those who are desirous of procuring them.

Such commodities, however, form but a very small part of the mass of commodities. By far the greater part derive all their value from labor, and may be multiplied, not in one country alone, but in many, almost without any assignable limit, if we bestow the labor necessary to obtain them.

In speaking then of commodities, of their exchangeable value, and of the laws which regulate their prices, the commodities referred to are such only as can be increased in quantity by additional labor, and be fairly considered subject to the influence of free competition in their production.

It may be observed then, first, that the value of a commodity does not consist in its power of purchasing any other single commodity, but in its power of purchasing generally. Supposing a maund of good rice exchanges for one rupee; from this alone, we cannot infer that the value of rice is low. It is possible that silver may be of great value, insomuch, that though a maund of rice exchanges for no more than is contained in a rupee, the rice still bears a high value. As matters stand at present, were good rice selling at the price mentioned, we should infer, and justly, that its value was low;

but observe, the correctness of the inference depends on the fact that silver purchases things in general at the usual rate, that a rupee will buy the usual quantity of salt, sugar, oil, fish, and so on.

This becomes still more evident on reference of a country with the condition of which we are little acquainted. Should we learn that in Peru, when first visited by the Spaniards, an ounce of silver would barely purchase a day's labor of the meanest sort, we might perhaps be inclined to say, that labor bore a high value there; though in truth we ought to determine nothing about it. For if, on inquiring further, we found that the laborer, though he worked hard every day, could scarcely procure meat, drink, clothes, lodging, and other necessaries, we should certainly amend our judgment, and say that the value of labor was not high, and that the value of silver was very low. Thus in reality, do we constantly estimate the value of commodities, not by comparing two together, but by comparing each with the mass.

Hence it follows, that no article of wealth is constant in value. Since value is the power of purchasing in general, whenever a commodity gains or loses any thing of this power, it increases or declines in value; and thus an alteration in the value of one commodity necessarily implies an alteration in the value of all others. For example, if owing to bad seasons, wheat acquires an increased power of purchasing things in general, not only is the value of wheat augmented, but the value of other things is plainly decreased; they have lost part of their power of purchasing. These two changes are inseparable; one can never take place without the other. Now it cannot be pretended, that *all* commodities remain stationary with respect to their power of purchasing. Great numbers are

continually in a state of fluctuation. But if one only varies, all vary: and we conclude that there is no such thing as a commodity, the value of which remains constant.

This conclusion is the foundation of another. A perfect measure of any kind must be invariable, at least in those of its properties which are actually employed in measuring. If there is a commodity then, which can be assumed as a perfect measure of value, it must be one the value of which is constant. But since no such commodity exists, no commodity, not even silver itself, is an accurate measure of value. Indeed, nothing more is necessary to compel assent to this conclusion, than the simple inquiry, whether or not any commodity exists which always exchanges for the same quantity of every other commodity. The answer must be in the negative; and this settles the question.

If a quarter of wheat exchanges for 12 ounces of silver, and I ascertain that it exchanged for exactly the same quantity 50 years ago, it is by no means certain that wheat is of the same value now, as it was then. It may have increased or diminished in value, though the variations are not shown by the standard referred to, because this itself may have varied.

Were we in the same way to compare wheat with labor, the measure of value which some have chosen, and to find that a common day's labor at present purchases exactly as much corn as it did 20 years ago, how could we determine the value of corn to be the same, seeing that the labor which a quarter of wheat exchanges for now, purchases more salt, more cotton, more cloth, cutlery, butcher's meat, and other things than it did before, and therefore, bears a higher value.

Concerning value then we have determined three points: first, that the value of an article is not proportionate to the quantity of any other single article which a certain quantity of it will purchase, but to its power of purchasing in general; second, that no article is constant in value; and third, that no article is a perfect measure of value.

PRICE is an idea much less complex than value, and therefore much less difficult of comprehension. As every one knows, the quantity of money for which an article, when in its natural state, will exchange, is its price. Price and value, therefore, are not identical. The difference between them is this, that the former denotes the quantity of *one* article, silver, or at least metal, for which another article exchanges; the latter, its power of purchasing in general.

Hence it is quite possible that an article may at the same time rise in price and fall in value, or the contrary. Suppose, for instance, that all commodities rise in price five per cent., except one, which, from peculiar causes, rises only two per cent. The value of this commodity will be less, though its price is increased: it will purchase more silver, but less of commodities in general.

We have shewn that there is no such thing as a perfect measure of value. Yet, as a standard of some kind is necessary, both in practice and speculation, it becomes important to discover what commodity is least unfit for that office. In practice, this question has long been determined in favor of money. The trader is perfectly satisfied as to the value of an article, when he knows its price at the time in a free market. No good reason can be assigned for rejecting the same measure in theory. It is acknowledged to be imperfect; but this is an objection which applies with equal force to every

commodity, and can be no argument against the selection of any one. The positive arguments in favor of price are peculiar to itself; and they appear conclusive as to the adoption of price for a measure of value.

First, money is the commodity which every exchanger gives and receives most frequently; and for this reason, a certain quantity of money carries with it an idea of value far more definite and familiar than pertains to any commodity beside. How accurately do we estimate the quantity of necessaries and luxuries which a given sum of money will purchase. Second, commodities vary in value from two sets of causes, perfectly distinct in their origin. One article, as we have shown, may decline, merely because others increase in value. But a fall in the price of corn, owing to an abundant harvest, is a change of a different nature. Here the commodity is active, while in the other case, it is passive. Now to changes of the latter sort, that is, to active changes, money is less prone than any other commodity, and hence less liable to change on the whole. Third, the changes which money does undergo are not sudden, but, for the most part, extremely slow. The alterations that occur in other commodities do not greatly affect the value of money. If money purchases more of one article, it purchases less of another; and perhaps these changes about balance each other in their effects on money, leaving on the whole its power of purchasing unaltered. To changes of value originating in itself, money is subject. But the quantities of gold and silver in existence are so immense, so little is absolutely consumed, and the produce of the mines, for short periods, bears so small a proportion to the stock previously accumulated,

that the precious metals cannot suddenly become either very scarce, or very abundant.

These are amongst the reasons which have led to the adoption of price, as the practical standard of value, by universal consent; and these, together with the additional one, that it *has* been so adopted, are sufficient to warrant our adhering to it, instead of adopting another. Yet, as price is certainly an imperfect standard, it is proper to inquire how far it may be trusted; and, if possible, to determine when, and how, it is most likely to deceive.

Under certain conditions, the prices of commodities express their value with perfect accuracy. The money, for which an article exchanges at any time and place, indicates, to those who live at that time and place, the true value of the article. We might hesitate to say, which was the more valuable, a silk handkerchief, or a pair of gloves; but on referring to the standard, on ascertaining that the market price of one at the moment was 7*s.* and of the other 8*s.* or even 7*s.* and 11*d.*, our uncertainty would be ended. In the same manner, from knowing the prices of fifty, or any number of articles, we can determine, precisely, every question as to their relative value at that time and place.

The precious metals being ordinarily liable only to slow changes, price also forms a good measure of value for moderately short periods of time. From the prices of an article at two periods, but a few years distant, its increase or decrease in value may commonly be inferred, subject only to a very small error. Of course, as a general rule, the nearer such periods are to each other, the more confidently may the conclusion be trusted. But mercantile transactions are seldom extended over spaces of time greater than those for

which money will serve as a measure of value well: and price therefore is a standard sufficiently accurate for the merchant.

Still, as a matter of curiosity, and even of utility, it is sometimes desirable to compare the values of articles at times considerably distant. As the medium of doing this, money will not serve. The variations which for shorter periods are scarcely appreciable, accumulate, and at length wholly destroy its peculiar usefulness.

For example: the average price of a quarter of wheat in England, from the 25th of Edward the Third to the death of Mary, 200 years, was about 6*s*. 8*d*. In 1832, the price was 66*s*. Now, though it is impossible to ascertain the precise difference, it is quite certain that the quarter of wheat in 1832 was not ten times the value of the quarter in 1512.

In the first place, about this time, 6*s*. 8*d*. contained 2*oz*. of silver, but from successive alterations in the coinage, it now contains a little less than 1⅓*oz*; 66*s*. weigh 13*oz*; so that making the requisite correction, instead of 10 to 1, we obtain the ratio 13 to 2, or 6½ to 1. In the next place, since the discovery of the American mines, silver is considered to have lost *three-fourths* of its value; so that an ounce of silver, in 1512, was worth as much as *four* ounces are worth now. This correction also being made, our ratio becomes 6½ to 4, or 1.625 to 1; whence it follows, that 6*s*. 8*d*., the price of a quarter of wheat in 1512, was equal in value to 40*s*. of our money. This result, it will be seen from the nature of the corrections employed, can be nothing more than an approximation to accuracy, widely different from the conclusions we should draw concerning the value of articles, by comparing their prices at the same moment.

There is equal difficulty in ascertaining the

comparative value of an article at different places, from its prices alone. If a pound of silk sells for *2oz.* of silver in China, and for the same quantity in Europe, the knowledge of this is not sufficient to warrant a decision that cotton is of the same value in both places; as there is a well-known difference between the value of the precious metals in Europe and in China.

In practice, the variations which take place in the precious metals are allowed for at short periods as they become sensible, or else overlooked and forgotten: they cause little difficulty to the exchanger. But to the historian and philosopher, in comparing the revenues of princes, the burthen of taxes, the opulence of individuals, the condition of the people, at distinct periods, these variations are often the causes of uncertainty, strife, and error.

Hume, considering the probable value of money and state of the country at the time, doubts if the revenue of William the Conqueror could have been £400,000 yearly, as former historians have informed us. Yet, at first sight, £400,000 appears no incredibly large sum for the revenue of a prince of England; and a reader, who was not aware of the changes which money has undergone, would, perhaps, object to it as being too small.

DEMAND AND SUPPLY. Provided no departure from strict unity of time and place is admitted, price then may be taken as a correct measure of value. This being settled, an important question succeeds, What are the causes which determine the prices of commodities? or in other, and more general terms, what are the causes which determine the quantities in which articles shall exchange against each other? The latter of these inquiries evidently includes the former. If we ascertain the causes which make a hat exchange for two pairs of shoes, or half a dozen

knives, we shall have ascertained also the causes which make one of these articles sell for 20*s.*, another for 10*s.*, and the third for 3*s.* 4*d.* It scarcely needs to be reiterated here, that commodities really exchange for each other, money being employed only as an instrument to facilitate the exchange. In fact, money itself is nothing but a commodity: it is bought, sold, procured and manufactured by labor, like all other commodities; and like them also, it is desirable solely on account of its usefulness.

Resorting to practice, the best school for information on these matters, we find in any market, that if a commodity has risen in price, at least one of two things must have previously taken place: either the buyers of that article must have inceased their purchases, or the sellers must have brought less to market. If a commodity has fallen in price, the reverse of this must have taken place: either the buyers must have lessened their purchases, or the sellers increased their supplies. There are no exceptions to this rule.

Hence arises the employment of the terms Demand and Supply. Demand is the will to purchase, combined with the power. Neither the will nor the power, separately, constitutes demand, but their junction in the person of an individual: and the degree in which they exist, or the intensity of the demand, is indicated by the sacrifice which he is ready to make for the obtaining of an article. Supply is merely the possession of commodities, together with the desire to sell them.

The relation which exists between these two—supply and demand—at the moment of sale, determines the price of a commodity; and variations in this relation produce corresponding variations in that price. If while the demand continues

stationary, the supply is increased, this relation varies; and because it varies, price falls. If while the supply continues stationary, the demand increases, the relation varies and price rises. If, while the demand increases or diminishes, the supply also increases or diminishes, but in a less degree than the demand, still the relation is altered and prices therefore fall in one case, and rise in the other.

Thus price is determined, not by the supply alone, nor by the demand alone, but by the relation that one bears to the other. The demand for an article may increase or diminish indefinitely, but if the supply also increases or diminishes at the same rate, no alteration will take place in the relation between them, and price cannot be affected.

The operation of these principles may easily be traced. If an article usually consumed by a thousand persons be suddenly required by two thousand, some must go without it; and those who make the largest offers, will of course obtain it, to the exclusion of the rest. Competition amongst the buyers, in this case, raises the price. On the other hand, should the number of purchasers suddenly be reduced from a thousand to five hundred, the sellers will be alarmed, and each, by reducing his price, will endeavour to get rid of his stock as fast as possible. In this case, competition amongst the sellers lowers the price.

It is not then, we repeat, the absolute quantity of an article in the market, nor the absolute quantity required, which fixes its price. Many more bushels of wheat are brought to market, in England, than of potatoes; yet one bushel of wheat sells at four or five times the price of a bushel of potatoes. There is a far more extensive demand for cotton cloth than for silk, yet a yard of cotton does not sell

for one-fourth the price of a yard of silk. This point being well understood, the whole is clear; and few will hesitate to admit, that the prices of articles are determined, at the moment of sale, by the relations of the demand to the supply. The alterations which take place in the price of an article are caused by alteration in this relation; and to these conclusions we can imagine no exception.

Cost of Production. The reader will easily perceive that there yet remains something to be explained,—that we have not searched this thorny question to the bottom. If the value of articles is measured by their price, and their price is determined by the relation of the demand to the supply, what are the causes which effect alterations in this relation—alterations in price—and alterations in value?

Suppose an article of general utility to be brought into a new market. As there will probably be many buyers, and but a small supply, the article will sell at a high price. But if the market should be free, the first occupiers will not be suffered to engross it long: other adventurers will convey goods to the same place, and the supply will be increased. The demand also may increase, but in general, will not keep pace with the supply. Prices therefore progressively diminish; perhaps until they reach a point considerably below what is sufficient to remunerate the manufacturers for the labor and capital expended in producing the article. Somewhere here, however, the depreciation must stop; for the manufacturers will not continue to sell at a loss. Those who can, will withhold their supplies; and those who cannot, will at least endeavour to contract them until better times. By these proceedings, the market may again be rendered profitable.

It may again become unprofitable, as before; and so on. Now it is easy to see that variations of price from such causes can be only temporary. They may go either way to some extent, but they will at length certainly move in a contrary direction.

Let us next suppose, that owing to a new machine, or any similiar cause, the *labor and capital* necessary to produce a commodity is lessened. If the market is not overstocked, the price at this moment will be sufficient to remunerate those makers who produced the commodity, without the improved process, at the old expence. At first, that which is produced with the improvement, at less expence, can form but a small part of the whole supply. Some time must elapse before improvements in a manufacture can be generally known and adopted, and those who first bring into the market goods manufactured at a lessened cost, will make an extraordinary profit; because their goods will sell at the same price as those on which the outlay has been greater. But the gain of these will excite others. The improved process will be adopted by one manufacturer after another, and as more than ordinary profits are to be procured, every one will do his utmost to make and sell goods, in order to obtain as much of the benefit as he can. The supply will soon be increased, competition will take place, those who first brought the cheaply-made goods into the market will be the first to reduce the price, others must follow, and this reduction of price will become permanent. Henceforth the average price of goods will be lower; still the manufacturer will be paid, and all things will go on, as before.

From this analysis of two cases, both of which are constantly occurring in practice, it appears

that the ultimate regulator of price is cost of production. A thousand causes may affect the demand or supply, and produce temporary variations in price: but all permanent variations in price originate in variations of cost.

Still, as variations in cost do not produce all variations in price, we cannot avoid referring to the principle of demand and supply, which alone will account for all. The truth is, that cost of production acts through the supply, and determines *averaye* prices. Thus, and thus only, can it operate on price; for unless the relation between the demand and supply is altered, no alteration in price can possibly take place. Still the influence of cost is not less certain and powerful. Its alterations are sure to affect price.

These conclusions are strictly agreeable to experience. Whatever alteration may have taken place in cost, no effect is produced on price, until the supply is either increased or diminished. Were a quantity of corn, equal to the consumption of the preceding year, rained down from heaven on the farmer's land, its cost would be nothing. But were no more than this quantity brought to market, the price of corn would not fall. What is there to make it? The demand would continue the same, the farmer would make the best of his good fortune, and he would procure the same price.

Were the expence of growing corn reduced one-third, by ordinary causes, while the same quantity was required by consumers, and the same quantity brought to market, prices could not fall. But this state of the supply would not long continue. As the growers of corn would make more than ordinary profits, new capital would be attracted to agriculture, fresh lands would be

brought into cultivation, the supply would be increased, and prices would fall.

Were the cost of manufacturing pins to increase, while the supply and demand continued the same, prices could not rise. But the supply would soon be reduced. As the manufacturer would not be gaining ordinary profits, he would contract his operations, capital would be withdrawn from the trade, the supply of pins would be diminished, and prices would rise.

Our conclusions on the whole then amount to this: that the principle of demand and supply actually determines *all* prices, but that no variations are permanent, unless they are supported by variations in cost:—and that cost is the grand regulator which determines *average* prices, but that it cannot act except through the medium of demand or supply.

In order that an article may continue to be brought to market, it is necessary that its price shall be sufficient to fulfil two conditions. First, the immediate labor expended on the commodity must be remunerated, so as to insure the future application of sufficient industry to continue the supply. Second, the capital employed must be repaid, together with a certain increase, proportionate to the sum employed, and the time during which it is employed. To produce a commodity, labor must be applied, and capital expended. But no man will work without wages, or expend capital without profits. These, therefore, are the elements of cost—the ultimate causes of value—the principles which determined the average price of commodities, or the average proportions in which they shall exchange for each other. If an ounce of gold usually exchanges for sixteen hundred ounces of cotton, it is because the amount of

capital, with the time for which it is engaged in the production of these commodities, and the immediate labor expended, taken together, are in the two cases as 1 to 1600.

It is however necessary to remark, that if for the manufacture of certain commodities, some persons enjoy either natural or acquired advantages, in which others cannot participate, goods manufactured by the aid of these advantages will cost less than other goods; but will *sell* at the same price. One commodity cannot sell at two prices, and the actual price must be sufficient to repay those who bring to market that part of the whole quantity required, which is manufactured at the highest rate. Unless these were remunerated, they would not continue to manufacture, and the supply would be insufficient. Thus, corn raised on the most fertile land does not cost half so much as corn raised on some land that is cultivated. Yet both kinds sell at the same price. The cost which regulates price is, in all cases, the cost of that part of the necessary supply which is produced under the least favorable conditions.

In the earlier stages of society, while little capital exists, some commodities are produced by immediate labor alone. The quantity of labor, therefore, which is expended on such commodities appears the single circumstance which can afford a rate for exchanges. If, for example, amongst a nation of hunters, it usually requires twice the labor to kill a beaver that is required for killing a deer, one beaver will naturally exchange for two deer.

Here we suppose that no capital is employed. But in point of fact, very few commodities are thus produced. Some capital, though perhaps such only as might be made by the hunter himself,

would be almost necessary. Without weapons, he could scarcely be successful, even if he attempted to hunt. Hence the value of his game must be regulated, not by the quantity of labor expended in taking it solely, but from this jointly with the quantity expended on the hunter's capital—the weapon by means of which the animal was killed.

The direct labor of killing the two animals being still supposed as two to one, let the weapon for killing the beaver require more labor to construct it, than that for killing the deer. One beaver will then be of more value than two deer; if for no other reason, yet for this, that more labor, on the whole, is required for procuring the former than the latter. Or, suppose that the same quantity of labor is required for the construction of both weapons, but that they are very unequal in durability: that the weapon for killing deer will serve to kill ten, while that for killing beavers, will be worn out in killing two. In this case also, the beaver will be worth more than two deer: for if x be the labor of making each weapon, the whole labor of killing a beaver will be $1+\frac{x}{2}$, and of two deer, $1+\frac{x}{5}$.

In the advanced stages of society, capital concurs in the production of all commodities. But as capital is only the accumulated produce of former labor, it is still true that commodities are produced solely by labor, and it might seem to follow, that the value of commodities must be proportionate to the whole quantity of labor worked up in them. Such an inference, however, would be false. The perseverance, foresight and self-denial, which are necessary for the purpose of accumulating capital; the risk which must be incurred in parting with actual possessions for uncertain returns; and the time, greater or less, during

which the owner must wait for those returns, demand remuneration, and constitute a new source of value. Thus, no person who expends capital is satisfied with receiving exactly the same amount again: he requires profits, proportioned to the capital he expends, the risk he incurs, and the time he waits.

Suppose a commodity, produced by the labor of one man, for 100 days, together with a consumption of capital equal to the produce of 100 days' labor. This commodity will certainly be of greater value than a commodity produced by the immediate labor of 200 men for one day. Yet 200 days' labor is expended on each. Or, suppose I employ 20 men, at an expense of £1,000, for a year, in the production of a commodity; and at the end of the year, employ 20 men for another year, at a further expense of £1,000, in finishing the same commodity; and that I bring it to market at the end of two years. If my risk and forbearance, together, are worth 10 per cent. yearly, on the capital employed, my commodity must sell for £2,310; because £1,000 capital has been employed on it for one year, and £2,100 capital for another year. A second person employs the same quantity of labor, but he finishes his commodity in one year; he employs forty men for that time at an expense of £2,000. His risk, being supposed equal to mine in degree, will only render his commodity worth £2,200. The inequalities of value and price in these cases, result from the new element of cost introduced by the employment of capital together with labor, in production.

Hence, a permanent reduction may take place in the cost of an article, though the labor of making it should remain unchanged. In the process of tanning, the hides are usually immersed in the

tanpits several months, during which time no labor can be applied to them. Now every thing else remaining as before, suppose some process were discovered by which the hides could be saturated with the tannin almost instantaneously. The labor expended might continue precisely the same, but as the capital would be set free in a much shorter time, a permanent reduction in price would certainly ensue.

Besides labor and profits, rent may be thought to claim mention as an element or cause of price. Its claim, however, must be rejected. The raw materials of commodities, or of the capital consumed in producing them, are, it is true, derived from the land; and as in civilized countries, all land is appropriated, the persons to whom it belongs, claim a remuneration for its use, which of course must be paid out of the price of commodities. But though this is the case, the payment of rent, unlike the payment of labor and profits, does not increase price. Labor and profits are the sole causes of price. Because these must be duly paid, price exists; but on the contrary, rent is paid because price exists. Rent is a consequence of price, not a cause. Capital and labor alone make price; but labor and rent are paid out of it. The proof of these assertions will be found in the next chapter.

The efficient causes of wealth then are Labor and Capital: the materials of which it is made are supplied by the land. Accordingly, all the new wealth of a country is, in the first instance, divided amongst three classes, the owners of the Land, the Owners of Capital, and the Laborers. These are the three great, original, and constituent orders of society, from whose revenue that of all

other classes must ultimately be derived. The investigation of the laws which regulate the Distribution of Wealth is, therefore, an investigation of those which regulate Rent, Wages, and Profits. We may conveniently begin with Rent: a knowledge of the nature and causes of this will facilitate our acquisition of knowledge concerning the other two.

CHAPTER II.

THE NATURAL LAWS WHICH CREATE AND GOVERN RENT.

Land is concerned, first or last, in producing all commodities.—Definition of rent.—Differences in the fertility of land, the foundation of rent. The returns to labor decrease as the land is forced.—General expression for rent.—The Capital employed on the land to least advantage, pays no rent.—Causes of the rise and fall of rents.—Proof that rent is not a constituent element of price.—Injury done to the community by corn-laws.

It requires no laborious process of investigation to trace any thing bearing the character of wealth back to its native earth. However beautiful, delicate, or lasting articles may be, a very simple analysis shows us that they are still but portions of matter, which man has for a time separated from the mass, and endowed with certain properties—with usefulness. As land then is concerned, first or last, in the production of all commodities, and as in civilized communities, land is always the property of individuals, who claim part of whatever it produces, it becomes interesting to inquire how much, or how little, will fall to their share, and by what principles their share is determined.

Land is the only natural agent for which rent is paid; not because it is the only one that contributes to production, but because it is the only one that a particular set of men can keep to themselves. The winds, the waters, and the sunshine work for us; but none can say concerning any of them, This is mine, and I will be paid for its use. These are inexhaustible, free to all, and their services bear no price.

The properties which render land capable of being appropriated are, therefore, the foundation of rent. When a few of the earlier exertions of labor have produced their effects in preparing the materials of wealth for after operations, these materials take the name of *raw* produce. They cannot, generally, minister to enjoyment in this state; but are merely so far on their way towards a fitness for consumption. Of all raw materials, the raw materials of food are the most important, because they are the most abundant, and the most necessary.

Other things, such as labor and capital, being equal, the ease with which food is procured must depend on the fertility of the soil.

That this fertility is so great, seems one of the most benevolent provisions of the Creator. Did the soil yield no more than sufficient for the maintenance of those who cultivate it, the highest state to which men could arrive, would be that of tillers of the earth; not, be it observed, tillers of the earth like those who now exist, but utter barbarians. None would be able to manufacture any kind of raw produce into articles of convenience and comfort, therefore, none could enjoy such; none would be able to devote their time to mental cultivation, and therefore, none could become learned, or wise, or polished. Two classes of men, to whom civilization is so unspeakably indebted, would not exist. But God has not thus ordered the condition of man. The earth yields far more food than can possibly be consumed by those who cultivate it. The surplus feeds manufacturers and men of science; and they repay the gift by large additions to the grosser pleasures of life, and by the more refined and estimable delights of knowledge.

Rent is that part of the annual produce which is paid to the owners of land for the services of its natural and indestructible powers. Rent, however, is often confounded with the profits of capital; the term, in popular language, being applied to whatever is annually paid by the cultivator to the landlord. If, of two adjoining farms, equal in extent and in natural fertility, one has all the conveniences of barns, stables, and other farm buildings, and is also properly drained and manured, advantageously divided by fences and walls, and intersected by roads, while the other possesses none of these things, a larger sum will be paid for the use of one, than for the use of the other; yet in both cases all that is paid will be called rent. It is evident, however, that a portion only of the sum paid for the improved farm, will be given for the natural powers of the soil; the other portion will be given for the use of capital, which has been expended on its improvements.

In every inquiry concerning rent and profits, this is a distinction of great importance; for the laws which govern rent and profits are extremely different; and they frequently operate in contrary directions. The term rent, therefore, is always to be understood as denoting that remuneration alone, which is paid to the owner of land for the use of its original aud indestructible powers.

Mines, quarries, roads, the habitations of men, and all other buildings, occupy but a small space even for the most civilized district. By far the greater part of its surface is necessarily devoted to the production of food; and of what remains, the far greater part again is employed in raising those raw materials of manufactures, which are produced by agricultural labor. By referring chiefly

to, food therefore, or at least to raw produce, out of which, in the first instance, the greater part of rent must come, we shall most generally and conveniently discover what proportion of the new wealth of a country is rent. In the value of such commodities, rent is more easily distinguished than in that of others, because it is blended less intimately with profits and wages.

It is scarcely necessary to say, that although rent is in the first place paid out of the price of raw produce, by the farmer, it is really, and ultimately, paid by those who consume the articles when finished. Part of the price of hay being rent, part of the price of the ox which is fed on it must be rent; and part of the price of his skin, and part of the price of leather, and part of the price of shoes. Still the land-owner receives a share but once, and it is paid but once, and then by the purchaser and wearer of the shoes.

On the first settling of a country in which there is an abundance of rich land—more than is sufficient to raise all the produce required for the maintenance of the actual population—there can be no rent. Men will not pay for what may be had for nothing, and in this case, there will be much fertile land unappropriated, and therefore, at any man's services who chooses to cultivate it. On the common principles of demand and supply, no rent can be paid for such land, for the reason stated, why nothing is given for the use of air and water. With a given quantity of materials, the elasticity of steam and the pressure of the atmosphere may perform work, and abridge human labor, to a very great extent; but as the supply is boundless, air and water bear no price. Neither would rent be paid for land, if land had similar properties; if it were unlimited in quantity

and uniform in quality. But this is not the case, there are great differences in the fertility of different portions, and of each sort the quantity is limited.

Suppose that, owing to the increase of population, the demand for raw produce can no longer be supplied by cultivating only land of the greatest fertility. Raw produce being scarce, the price will rise; until at length it becomes as profitable to cultivate land of the second degree of fertility [B] as it was before to cultivate the best [A]; that is, until the cultivation of the inferior lands will yield the ordinary profits of stock.

Rent then commences. The owners of the best land immediately demand from any who would occupy it, the excess of its produce above that of the inferior land. Tenants for the best land will be found on these terms; because its produce, selling for more money than formerly, will afford this deduction, and still leave ordinary profits. The amount of the rent will plainly depend on the difference in the fertility of A and B. No rent will be paid on land of the second quality, B, until that of fertility still inferior, C, is cultivated. Then, however, rent will begin to be paid on B, and its amount will be regulated, as in the preceding case, by the superiority of B, to the land last taken into cultivation, or C. At the same time, the rent of A will rise, for it must always continue above the rent of B, by the difference between the produce which they yield to equal quantities of labor and capital. Thus, with every increase of population, which by increasing the quantity of food and other raw produce required, forces labor and capital on less and less fertile land, the rent of all the more fertile land will rise.

Suppose three sorts of land, A, B, and C, to yield, with the employment of equal labor and capital, unequal quantities of produce; A, 100, B, 90, and C, 80, quarters of corn. While it is necessary to cultivate only A, the whole net produce will belong to the cultivator, as the profits of his stock. When the increase of population renders it necessary to cultivate B, from which 90 quarters only are obtained, rent will commence on A; for there must either be two rates of profit on agricultural capital, or ten quarters must be withdrawn from the produce of A for some other purpose. For the same reason, when C is brought into cultivation, ten quarters must be deducted from B; and a second ten quarters, or 20 quarters on the whole, from that of A: for the cultivator will get the same profits by cultivating A, and paying 20 quarters as rent, or B, and paying ten quarters, as he will by cultivating C free of all rent.

Land does not yield all that it may be made to yield with the same facility. A corn-field may be made to yield ten quarters annually, or twice ten, or three times ten. But if it yields the first ten quarters with a given quantity of labor and capital, it will not yield the first ten and the second ten also, without more than twice the quantity; nor the first ten, second ten, and third ten, without more than three times the quantity. Or, putting the case differently, for £20 expended in its culture, the land may yield ten quarters, for £40, 10+8=18 quarters; for £60, 10+8+6=24 quarters. A law similar to this is well known to govern the application of successive portions of capital to the same land.

Now it often, and indeed, commonly, happens, that before the inferior lands, C, D, E, are

cultivated, new capital is employed on A and B. It may perhaps be found that by doubling the capital originally employed on A, though the produce will not be doubled, that is increased by 100 quarters, it may be increased by 85 quarters; whereas the same capital applied to C will produce only 80 quarters. In this case, new capital will be applied to the old land in preference; but it will not thus escape the payment of rent. The tenant who, with the application of £1,000, capital, obtained from his land 100 quarters of wheat, and by the employment of a second £1,000, obtains a further return of 85 quarters, will be obliged, at the expiration of any existing agreement, to pay 15 quarters to his landlord, in addition to what he had paid before. There cannot be two rates of profit. The cultivator obtains ordinary profits on the employment of his second £1,000, or he would not employ it; and after paying fifteen quarters out of the returns to his first £1,000, ordinary profits will still remain. He will therefore be satisfied with these; as, if he withdrew his capital, he could not reasonably hope to employ it to greater advantage.

In this instance, as well as in the former, the capital last employed, pays no rent. For the superior productiveness of the first £1,000, fifteen quarters are paid: for the employment of the second £1,000, nothing whatever. If a third £1,000, be applied to the same land, with a return of 75 quarters, rent will then be paid for the second £1,000, equal to the difference between the produce of these two, or ten quarters; and at the same time, the rent of the first £1,000 will be raised from 15 to 25 quarters; while the last £1,000 will pay no rent whatever.

Hence we may obtain a general expression for

rent. In applying portions of capital either to lands of various degrees of fertility, or, successively, to the same land, some portions are followed by a greater return, some by a less. That portion which produces least, *must* produce all that is necessary to pay the usual profits on capital. The cultivator can in no case obtain more than this, because the competition of others will prevent. All above this the landlord will be able to appropriate. Rent, therefore, is the difference between the return to that portion of capital which is employed on the soil with least effect, and the returns to all the other portions which are employed on it with greater effect.

It has been objected to this theory, or at least to so much of it as implies that the worst land cultivated pays no rent, that after land is appropriated, every portion does pay rent; the owners not being disposed to give the use of it for nothing. Some rent, it is pretended, is paid even for the moor and the mountain. But land which yields nothing above the ordinary profits of stock, can at most yield only a nominal rent paid as an acknowledgment that the farmer is not the lord of the soil. The landlord may require a small sum annually, in order to keep his right undisputed, until the time shall arrive when he may demand, and the land will pay a real rent. But if for 1,000 acres of land, £5, that is, about 1*d.* an acre, were obtained yearly, this sum would bear so small a proportion to the cost of cultivation, which could not be less than several pounds an acre, that the simplification of our language and reasoning on the subject would fully justify its being disregarded.

Besides, when it is asserted, for instance, that rent is paid for every part of the Scottish mountains, the fact is mis-stated. It is only true that

every tenant of an estate pays rent; but this is because there are spots of great fertility in the valleys. Though large tracts of mountain are occupied along with these, it does not follow that all pay rent; many parts neither do nor can.

Even though land is not absolutely barren, because it affords something for the more hardy domestic animals to pick up, rent is not the necessary consequence. Cattle are capital, and their keepers are paid with capital. Unless the land then feeds cattle, so that their price shall repay all this outlay, with ordinary profits, and something more, it cannot pay rent.

Poor lands are always let in very large tracts, together with more fertile spots lying adjacent. The rent is nominally paid for the whole; but if from the total, the rent of the more fertile land, at a fair valuation, were deducted, nothing would remain as the rent of the rest. Or, should particular spots of such farms be taken away, it is certain that the rest would never be taken on condition of paying rent, because the farmer could not obtain produce from it sufficient to afford profits, and rent besides.

There is in every country land lying waste, because incapable of repaying the cost of cultivation. Between this and the most fertile, exists every intermediate degree of fertility. It is evident then, that in every country, there must be a portion of land exactly capable of repaying the cost of cultivation, and that alone; which portion therefore cannot pay rent. But the profits of capital are a sufficient inducement to employ capital; the land is capable of yielding these; and therefore it will be cultivated.

This theory, however, is not dependent on the question whether all land pays rent or not. It may

even be admitted that in a certain country the population is so great, and the demand for raw produce so intense, as to render all land capable of paying rent. Still the same conclusions will follow. The fact that successive portions of capital cannot be applied to land, without diminished returns, remains untouched. It is proved by the cultivation of new and less fertile lands. None would ever cultivate these, if additional capital could be applied to the best land, with returns equal to the returns of the first capital. On all capital applied to land, with returns greater than ordinary profits, the land-owner will impose rent. Competition amongst the cultivators will enable him to appropriate all above the ordinary returns to capital. These alone will be left to the cultivators. They, however, after applying all the capital on which rent is to be paid, will apply another portion, which though incapable of yielding rent, will yield ordinary profits. The landlord cannot impose rent on this, because, yielding nothing above what might be got by employing it in any other department of industry, it would be withdrawn from his land if he made the attempt. Rent, therefore, is still the difference between the return to the portion of capital which is employed on the land with least effect, and the returns to all the other portions which are employed with greater effect.

In the last chapter, it was said that prices are determined solely by labor and profits. We are now able to supply the proof, that prices are not affected by the payment of rent.

There cannot be two prices for the same article. The *one* price of raw produce must, therefore, be equal to the cost of that portion which is raised at the greatest expense, or by the capital which

is employed on land with least effect. But we have just seen that this capital pays no rent; its whole return is exactly the ordinary profits of stock. The price of this part however must fix the price of the whole: and it follows, that the payment of rent does not affect price.

The price of food, and other agricultural produce, rises in the progress of society, not because more rent is paid to the landlord, but because the supply is continually augmented to maintain an increasing population, and the labor of raising that corn, the cost of which fixes the price of corn, increases with every addition made to the yearly produce. Corn is not high because rent is paid; but rent is paid because corn is high. No reduction would take place in the price of corn, although the landlords should forego the whole of their rent. Some farmers would be enabled to live like gentlemen; but the quantity of labor required to raise that part of the raw produce which determines the price of all, would remain exactly the same.

The necessary rise of price which occurs when capital is forced on poorer lands, or employed on the old lands with less effect, is, therefore, the true source of rent. As the capital applied to the land augments, the cultivator will retain a smaller and smaller proportion of the total produce, and pay over a greater proportion to the landlord; whose share is thus continually increased in the progress of society, by the operation of natural causes.

From the same principles we infer, that any circumstance which prevents the employment of additional capital on the land will keep rent stationary; and that any which prevents the employment of so much as before, will decrease rent.

The latter effect would certainly follow such a diminution in the capital of a country as materially lessened the funds for the payment of labor. Population is ultimately regulated by the funds which are available for the employment of labor, and therefore increases or diminishes with the increase or diminution of capital. A large subtraction of capital, therefore, must be followed, eventually, by a lessened demand for raw produce, a fall of price, and diminished cultivation. On such an occurrence, the laborers cannot find employment without great difficulty; they work for lower wages; they pinch themselves and families; and the demand for food is thus lessened at once. But these hardships will soon decrease their numbers; and in time, the demand becomes still further decreased. As this proceeds, prices will fall, the least fertile lands will not pay for cultivation, and will therefore be relinquished; better land will become the worst actually cultivated, and will then pay no rent. The rent of all other lands, being the excess of their produce above the produce of the worst land actually cultivated, will fall. The state of a community in which rent is reduced by these causes, must evidently be a declining state.

Rents may, however, be reduced, while the population and capital of a country are progressive. If the augmented demand for raw produce be at intervals counteracted by marked improvements in agriculture, such as shall diminish the necessity of cultivating the poorer lands, and of expending new capital on the more fertile, prices will fall, and the rent of land will decrease. A great improvement in agriculture, by reducing the cost of cultivation, will naturally increase the supply of raw produce, and at last affect its price. The

cultivators of the poorest land C will be driven from the market by this fall in prices; B, instead of C, will then be cultivated without paying rent; and the rent of A, instead of being the difference between the produce of C and A, will be only the difference between that of B and A.

This reduction in rent, however, will be only temporary. For a time, corn and other raw produce will be raised at less expense; but this circumstance is almost certain to increase the demand. Whenever the necessaries of life are to be procured with less exertion than formerly, population will increase more rapidly. The increased demand for raw produce will cause the cultivation of C to be resumed, which, owing to the late improvement, will be effected with less labor than was required when it was cultivated before; and in addition to this, another portion of land, D, still inferior in quality, and never yet employed, may now be taken into tillage with the same labor that was required by C before the improvement. Another portion of land, C, then yields rent; and the rent of all the better lands is increased. Rent, therefore, though at first diminished, is at length raised higher than ever, by improvements in agriculture.

During this chapter, rent has been considered as that proportion of the actual produce of an estate which is paid to the landlord. This proportion has been shewn to increase as the mass of capital applied to the land increases. But this is not the only way in which the landlord is benefited. The proportion of raw produce falling to him, and the price of raw produce, are both augmented by the same causes. He is thus doubly benefited: he obtains more bushels of corn, and sells each bushel at a higher price.

If the whole supply of food required in a country like England, extremely populous in proportion to its surface, be drawn from its own soil, land of very inferior fertility must be cultivated, and food will be necessarily high in price. But while there are neighbouring countries, where food is produced on more fertile lands, and of course, at less expense, this disadvantage may be greatly mitigated by importing corn, and throwing the poorer soils at home out of cultivation.

In England, however, the import of foreign corn has been prohibited; and the people are thus compelled to toil for the profit of the landholders. The payment of rent must be endured—it is a necessary evil: but a measure which greatly aggravates this evil, and which injures every one, except those who live on the fruits of other men's toil, cannot be too sternly condemned. Landlords and tithe-eaters* are the only classes interested in this injustice; and to their influence in the legislature it owes its origin and continuance.

In this theory of rent, the flow of labor and capital to and from the land is assumed as being perfectly free. Wherever it is not free, rent will be regulated by circumstances which originate in the caprice, extortion, and power of the landholders, on one side, and the weakness, slavishness, and ability to give of the tenants, on the other. These are variable causes, which cannot be reduced to general principles.

* Tithes are a tenth of the produce, whatever the amount or cost may be. They increase therefore in the progress of society from the same causes as rent. The same number of persons, for the same quantity of service, receive, from time to time, more bushels of corn, and each bushel sells at a higher price.

CHAPTER III.

WAGES; AND THE PRINCIPAL LAWS WHICH GOVERN THEM.

SECTION I. INEQUALITIES OF WAGES IN DIFFERENT EMPLOYMENTS.—Circumstances which account for these inequalities.—All laborers equally remunerated, on the whole.

SECTION II. THE RELATION BETWEEN CAPITAL AND LABOR WITH ITS INFLUENCE ON WAGES.—The market rate of wages determined by the amount of capital, compared with the number of laborers.—Proof that population possesses a power of doubling itself in a small number of years.—Proof that capital cannot be increased, but at a slower rate.—Comparison of the two rates of increase.

SECTION III. MORAL RESTRAINT; ITS INFLUENCE ON WAGES; AND CLAIMS TO OUR OBEDIENCE.—Checks by which population is kept down to the level of subsistence.—Of all these, moral restraint is the only one we can adopt.—Our obligations with respect to this principle.

SECTION IV. THE EFFECTS OF MACHINERY ON WAGES.—Machines tend to increase capital.—To extend demand.—Cannot render employment scarce.—Cannot produce a *general glut*.—Injure certain laborers.—Means of counteracting this evil.

SECTION V. COST OF PRODUCING LABORERS: AND THE INFLUENCE OF THEIR HABITS AND OPINIONS ON WAGES.—Labor purchased, on an average, at a price proportionate to its cost.—The habits of the laborers powerfully operate on wages.—Means of improving their habits.

AFTER the share of the landowner has been separated from the new wealth of a country, all that remains must belong to the capitalist and the laborer. In practice, nearly every commodity, before it reaches the market, becomes the sole property of the capitalist; who pays the landlord his rent, and purchases the share of the laborer, or in other words, pays him wages. To what portion of the whole, after the deduction of rent, these

wages shall amount, is the subject of a contract between the laborer and the capitalist; and the principles which fix the terms of the contract, are easily discovered. The rate of wages, or the price of labor, like the price of all other things, at the moment of sale, depends on the relation of the demand to the supply.

SECTION I.—*Inequalities of wages in different employments.*

The different rates at which laborers in different employments are paid, appear, at first sight, to throw a difficulty in the way of discovering general principles that regulate *all* wages, not easily surmounted. The differences in question, however, exist, wholly, in the sums of money, or quantities of produce, which are paid to the laborers. But when, in addition to these, all other excitements to human industry are taken into account, it will be found that small wages are usually made up for by advantages of a different kind, and large wages counterbalanced by opposite disadvantages: so that, on the whole, there is much less inequality in the real rewards of labor, than, from a hasty examination, might be inferred.

If all employments were equally healthy and pleasant, equally laborious, equally honorable, and equal in the degree of skill required for their practice, it is clear, supposing industry to be free, that no great or lasting inequalities in the wages of different employments could exist. For if the persons engaged in one occupation earned more than their neighbours, there would be a flow of labor towards that occupation, until the increased number of persons seeking that sort of work had reduced its wages to the common level. On the contrary, if the laborers in a particular trade earned

less than others, they would desert it; and the decrease of hands would raise wages to the general rate. These effects naturally flow from the principle, self-interest; the operation of which, on masses of men, may be as confidently predicted as the rising and setting of the sun.

But in point of fact, the labor, skill, pleasantness, and repute of different employments differ extremely; and for this reason, there must be proportional differences in the wages of those who follow them. A jeweller and engraver, for example, must be paid higher wages than carters and scavengers. He is entrusted with costly materials, and faithfulness being less abundant in the market of the world than it ought to be, consequently bears a price. A long course of training is also necessary to give a proficiency in the art; and if the cost of this were not repaid with higher wages, jewellers would indulge the love of ease, and follow some occupation less difficult, and learned at less expense. Hence the inequalities of wages in different occupations are all included within certain limits: wages are raised or depressed, above and below the averge rate, only so far as to equalize the total advantages of employments.

Doctor Smith lays down the following circumstances as being the principal causes which compensate for low wages in some occupations, and counterbalance high wages in others. First, the agreeableness or disagreeableness of employments: second, the ease and cheapness, or difficulty and expense of learning them: third, the constancy or inconstancy of the work: fourth, the degree of trust which must be reposed in the workmen: fifth, the chances of success in different employments.

First. The wages of labor vary with its agreeableness and disagreeableness. The agreeableness

of an occupation may arise either from physical or moral causes,—from the lightness of the labor, from its healthfulness, and its cleanliness, or from the repute which attaches to its followers. Its disagreeableness will arise from the opposite circumstances; from the severity of the labor, from its unwholesomeness, and its filthiness, or from the odium attached to those by whom it is performed.

Wages must vary extremely with circumstances exerting so powerful an influence on the minds of men as these cannot fail to do. None can ever be so blind to his own good, as to pursue a laborious occupation, or one which is thought mean and disreputable, if he obtains merely the same wages as those who follow employments easy in point of labor, and high in the world's opinion.

Thus the trade of a butcher, being a brutal and odious employment, is in most places more profitable than the greater part of common trades. The most hateful of all workmen, the public executioner, is, in proportion to his skill and his labor, better paid than any common workman whatever. Hunting and fishing, in a rude state of society the most serious occupations of mankind, become in more advanced states, our most agreeable amusements, and we pursue for pleasure what we once followed from necessity. In the progress of society, all who follow as a trade, what others pursue as an amusement, are very ill paid. Fishermen, for instance, are proverbially poor. The pleasantness and healthfulness of field-labor, together, perhaps, with the moderate degree of skill it requires, rather than its lightness, principally cause the redundant numbers and consequent low wages of common agricultural laborers. They can claim no compensation on the score of disgrace: on the contrary, agriculture has been extolled by poets,

philosophers, and the world at large, from time immemorial.

In all honorable professions, honor forms a large part of the reward. Excellence in a science, or an art, of which few become distinguished masters, is the most decisive mark of what is called genius, or the possession of extraordinary talents. The public admiration that waits on these rare endowments, always makes part of their reward; a greater or smaller part, according to its degree. In the profession of physic, it forms a considerable part; in that of law, perhaps a still greater; and in poetry and philosophy, it often makes almost the whole. To the higher grades in the profession of arms, and to many public offices of great trust and difficulty, but a very small pecuniary reward is appended.

The severe discipline to which private soldiers are subject, the danger and privations to which they are liable, and the little chance they have of rising to a higher station, are very unfavorable circumstances, which might be supposed to require a large pecuniary reward as their counterpoise. Yet in few common trades are the laborers worse paid. Nor is it difficult to discover the causes of this apparent anomaly. Except when actually on service, the soldier is comparatively idle; while his free, dissipated, and generally adventurous life, the splendour of his uniform, the imposing spectacle of military parades and reviews, with the martial music by which they are attended, exert a seducing influence on the young and unwary. Regardless of danger and distress, volunteers never enlist so readily as at the beginning of a new war. Though they have scarcely any chance of distinction, their youthful fancies present them with a thousand occasions of acquiring profit

and renown, which never occur; and these romantic hopes form almost the whole price of their blood.

Setting aside direct wages, sailors are much better remunerated than soldiers. The chances of preferment are much greater in the navy than in the army. Hence the son of a creditable artizan may frequently go to sea with his father's consent; but he can never obtain it to enlist as a soldier. People see some chance of his making money in the one occupation; nobody but himself sees any of his being successful in the other. Still the enticements to enlistment are found much the greater of the two. The life of a sailor is perhaps even more adventurous than that of a soldier; but he has no regular uniform, his employment is dirty and disagreeable, his labor severe, and while at sea, he endures a species of imprisonment, and cannot, like the soldier, excite the admiration of his countrymen and countrywomen. The great admiral too, is an object of less public attention, than the great general; and thus the highest success in the sea service promises a less brilliant fortune and reputation than equal success on land. For these reasons, the wages of seamen, though low compared with wages in general, almost invariably exceed those of soldiers; and yet there is greater difficulty, at the breaking out of a war, in obtaining men for the navy, than for the army.

There are some very agreeable and beautiful talents, the possession of which commands great admiration; and yet, to exert them, for gain, is considered, whether from reason or prejudice, as little better than a sort of public prostitution. The wages of those who employ them in this manner must, therefore, be sufficient, not only to repay the labor of improving or acquiring the talents,

but to atone for the discredit attending their employment for hire. The exorbitant rewards of players, singers, and dancers are accounted for on these two principles,—the rareness and beauty of the talents, and the odium attached to their employment. It seems absurd that we should despise the persons, and yet reward their talent with the utmost profuseness. While we do one, however, we must also do the other. Should the public opinion ever change as to these occupations, their recompense would quickly diminish, from the effects of competition. Such talents, though far from being common, are far from being so rare as they are usually considered. Many people who possess them in great perfection, disdain to exert them in the manner required; and many more are capable of acquiring, and would acquire them, if any thing could be honorably made by their possession.

Second. The wages of labor vary according to the ease and cheapness, or difficulty and expense, of learning trades. There are several kinds of labor which almost any person can perform with little or no previous instruction; and by which, therefore, he may earn something from the first moment he works. But the great number of employments can be exercised only by those who have received instruction, more or less. The wages of skilled labor, therefore, must exceed those of labor comparatively rude, in order to afford a reasonable compensation for the expense incurred, and the time spent by the workman, in learning his trade. Every machine is expected, before it wears out, to repay the capital spent on it with at least ordinary profits. In this point, a skilled workman may be compared to a machine. His labor, besides ordinary profits on the capital

expended on his education, must afford a yearly surplus, sufficient to replace the capital itself before what is considered the probable termination of his life. If he obtains less, he will be underpaid, and the supply of laborers for his employment will be decreased; if he obtains more, the supply will be augmented; and by these means wages will come to their proper level. Education for the more ingenious arts, and for the liberal professions, is extremely tedious and expensive; which is one cause of the high wages paid to sculptors, painters, lawyers, and physicians.

Third. Wages vary with the constancy or inconstancy of employment. Employment is much more constant in some trades than in others. A jeweller, weaver, shoe-maker, or tailor, may, under ordinary circumstances, be tolerably certain of employment every day he chooses to work: but masons, brick-layers, paviors, and all others who work in the open air, are liable to perpetual interruptions from the weather. When such laborers are employed, therefore, they must earn something to maintain them while they are idle; and besides, they ought to receive a compensation for the endurance of those anxious and desponding moments which the thoughts of so precarious a situation must sometimes occasion. For these reasons, the wages of porters, water-men, and palanquin-bearers, and generally, of all workmen engaged for short periods, and on particular occasions, should not be deemed extravagant, because higher than the wages of other workmen possessing equal, or even greater skill. Such persons often earn more in an hour or two, than workmen regularly employed earn in a whole day; but their high wages are only a bare compensation for the labor they perform, together with the time spent

in waiting for work, though in actual idleness. Instead of being richer, these people are almost invariably poorer than workmen in general.

The interruptions to employment occasioned by holidays, have a similar effect on wages. There are countries in which the holidays, including Sundays, engross half the year. The necessary wages of a day's labor in these places, must be about double what they would be, were the holidays abolished. A day of rest occasionally, is, without doubt, highly favorable to the energy of labor; but the continual recurrence of such intervals destroys the appetite for rest, by satiety, and that for labor, by irregularity. This evil consequence is severely felt by the Hindus.

Fourth. The wages of labor vary according to the trust reposed in the workman. On account of the precious materials with which goldsmiths and jewellers must be entrusted, their wages are every where superior to those of many other workmen who possess not merely equal, but superior ingenuity. We commit our health to the physician; our fortunes, and sometimes our lives and reputations, to the lawyer. Confidence so great could not safely be reposed in people of a low condition. Their reward therefore must give them a rank in society, suited to the confidence placed in them, and worth preserving by the utmost diligence and uprightness of conduct. Besides, where the want either of skill or honesty may be fatal, the world will not believe any man perfectly trust-worthy except by slow degrees. The physician or lawyer, therefore, after completing his education, must establish his character; during which process, and especially in its earlier steps, he will be very inadequately, if at all remunerated. The time and expense of his education, and of this

subsequent probation, greatly enhance the reward due to the confidence which is reposed in his honor.

Fifth. The wages of labor in different occupations vary as the chances of success in them vary. The probability that a particular individual will be successful, is extremely different in different employments. In the mechanical trades it amounts nearly to certainty; but not in the finer arts, and the liberal professions. Put your son to the trade of a shoe-maker, and there is little doubt of his learning to make a shoe, so as to live by his trade: but send him to study the professions of law, or medicine, or the arts of painting, sculpture, or music, and there are many chances against his ever making such a proficiency as will enable him to live by his earnings.

In a perfectly fair lottery, those who draw the prizes ought to gain all that is lost by those who draw blanks; and in a profession where twenty fail, for one who succeeds, this one ought to gain all that the unsuccessful twenty lose. The counsellor at law, who, perhaps when forty years old, begins to earn something by his profession, should obtain, not only the recompense of his own tedious and expensive education, but also that of more than twenty other men's educations, which will never gain them a guinea. The fees of lawyers, how extravagant soever they may appear, are never equal to this. The lottery of the law, therefore, is very far from being a perfectly fair lottery. Many liberal and honorable professions, besides law, are, in point of wages, under-paid.

Still they keep their ground with other occupations. Together with a natural thirst for the reputation which attends success, that strong confidence which every man has, not only in his own ability, but in his good fortune, allures into their

ranks all the more generous and liberal spirits. The overweening conceit which men cherish with respect to their own abilities, is an ancient folly, remarked by philosophers and moralists in all ages. Their absurd presumption in their own good fortune has not so often been noticed. It is, however, if possible, still more universal than the former error. There is no man living, who, when in health and good spirits, has not a share of it. The chance of gain is more or less over-rated by every man; the chance of loss is under-rated by most, and by none estimated at more than its worth. Contempt of risk, and presumptuous hopes of success, are at no period of life so active as in youth, when men choose their professions. How little the fear of misfortune then weighs against the hope of good luck, appears in the readiness of the common people to enlist as soldiers, or go to sea, and in the eagerness of those in better condition to enter what are called the liberal professions.

It is unnecessary to pursue the inquiry further: the evidence already adduced completely proves that where industry is free, inequalities in the wages of different occupations are little greater than are requisite to compensate for disadvantages, and to counterpoise advantages incident to the employments. Those who earn the highest wages are scarcely better rewarded than those who earn the lowest, all other things being taken into account. When the proper relation amongst the wages of different employments is disturbed, as it may be, from many causes, time, more or less, is necessary for its re-adjustment. But all inquiries that have the discovery of general principles for their object, are, or at least ought to be, founded on periods long enough to shew the average effects

of causes. When this rule is observed, we may assume, without fear of error, that laborers in different occupations, all things considered, are equally well paid.

SECTION II.—*The relation between population and capital, with its influence on wages.*

A great part of the capital of a country consists of food, clothing, and other necessaries of life, which, in themselves, are useless to their actual owners, being more than they can consume. All this portion of capital, therefore, must be employed in the purchase of labor; it can be used in no other way; and the price of labor must always depend on the magnitude of this fund, compared with the supply of labor in the market. The fund itself cannot be enlarged, except through an *increase* of capital; or at least it cannot be augmented from other items of capital, except to a very small extent. Machines and raw materials will not maintain living laborers; and though if they are exchanged for things that will, one capitalist's stock of these latter may be increased, yet as another's is diminished just as much, no addition is made to the sum. Other things remaining the same, with every increase in the capital of a country, the reward of labor becomes greater; with every decrease, less.

Let it be supposed that the capitalists in a country possess a definite quantity of food, raw materials, and machines; that all the existing laborers are fully employed; and that the rate of wages has fixed itself at some particular point.

Then let the number of laborers be increased by one-fourth, while the capital remains as at first. Instead of every 2,000 laborers, there will be now 2,500; while the food, raw materials, and machines

to employ labor, are only sufficient for the less number. One thousand persons, therefore, out of every 5,000, will be in danger of remaining unemployed. To escape this evil, they have but one resource: they must endeavor to supplant others; that is, they must offer their own labor at a lower price—for less capital. Wages therefore fall. All the laborers may then be employed, but ten earn now, only what eight earned before.

Next, let the quantity of capital be increased, while the number of laborers remains as at first. A result the reverse of that just described will ensue. Where there was *four* hundred pounds worth of capital, there will now be *five;* but every person who possesses an additonal hundred, will seek to employ that as much as the rest. By lying idle it can yield no profit, and it can be employed only in the purchase of labor. He will endeavor therefore to engage additional laborers. But all the laborers are fully employed, and to allure them to himself, he has but one resource,—the offer of higher wages. Still, all capitalists being in the same condition, all will act in the same way, and from the same motives. An active competition for labor will take place, and continue, until all the new capital is employed; but as the number of laborers is not greater than before it existed, the wages of each laborer will be increased by one-fourth.

Thus if the laborers increase in number without a proportional increase of capital, wages fall; if capital increases without a proportional increase in the number of laborers, wages rise: and if both increase, but one faster than the other, wages will be affected exactly as though one had remained fixed, while the other increased.

Suppose the laborers increase $\frac{1}{8}$ in number, if capital increases $\frac{1}{8}$ in amount, the relation between capital and labor will remain unchanged. But if the laborers increase $\frac{2}{8}$ while capital increases only $\frac{1}{8}$ this relation will vary, and wages will fall. Universally, it may be affirmed, that the wages of labor vary as the ratio between capital and labor varies.

From this principle, it is easy to deduce that law which immediately determines the condition of nearly all the human race,—in fact, of that part in every nation, which is emphatically called the People. If the people are well supplied with the necessaries and comforts of life, nothing is required to continue their enjoyment of this happy condition, but an augmentation of capital equal to the increase of population. If their condition is less desirable, it can be amended only by preventing the increase of population, or accelerating that of capital, or both: in other words, only by increasing the ratio which the fund for purchasing labor bears to the number of laborers.

If it is the natural tendency of capital to increase faster than population, there can be little difficulty in keeping the people well supplied and contented. But on the other hand, if it is the natural tendency of population to increase faster than capital, the difficulty must be extremely great. There will be a constant *tendency* in wages to fall. Unless strong preventive measures be discovered and firmly pursued, wages *will* fall, and the condition of the people will be reduced lower and

lower, until extreme poverty introduces an excessive degree of misery and vice, its constant attendants. With misery and vice, mortality will increase. Of the children, many will die from want and neglect, and of the adults, many will be cut off prematurely, by the same causes. After the materials of subsistence are divided into the smallest portion that will serve to maintain life, the number of these portions impassably fix the number of people; not one above this number can live.

From a glance at the actual state of society throughout the earth, one of two things is clear, for in all, or nearly all countries, the great body of the people is poor and miserable. Either population then must possess a tendency to increase faster than capital, or capital has been artificially prevented from increasing so fast as it naturally tends to increase. Both these causes appear to have contributed to produce the effect noticed; but it must be of the highest importance that a subject so vital to the well-being of society should be thoroughly investigated; and that its due influence should, if possible, be assigned to each. So far as concerns one and by far the greater of these causes, our object, at present, is to do this.

Nature, in her conduct towards living beings, seems careless of the individual, and solicitous only for the preservation of the species. To effect this, however, she uses the most energetic, and adequate, though simple means. She distributes the germs of life throughout her dominions, with such vast profusion, that in spite of the immense variety of accidents which prevent the development of myriads, and destroy myriads in their progress to maturity, enough, and more than enough

to perpetuate the race, always remain. Indeed, so far are living beings from danger of becoming extinct, that there is no *limit* to their increase, but that which results from their interfering with each other's means of subsistence. Were the face of the earth destitute of other plants, it might soon be covered from a single seed; and were it unoccupied by other animals, it might soon be replenished from a single pair. But the principle of life cannot inhabit organized bodies, unless they are cherished by the administration of appropriate sustenance; and want of such sustenance, sooner or later, imperiously forbids further increase.

Man is not exempt from this law. His superior intelligence enables him to make large additions to that bare pittance which is spontaneously bestowed by nature, but it endows him with no power, either to evade the law by living without food and clothing, or to elude its pressure by increasing them in proportion to the superior power of increase resident in his own species. He, like other animals, dies unless he is fed; and if the principle of population be left free from restraint, multitudes must die at last, because they *cannot* be fed. The evidence of this proposition is unusually simple, and unusually strong: it challenges all scrutiny, and laughs at all contradiction.

The strong tendency of population to increase, may be inferred directly, from undisputed facts which are in our possession, showing the actual fruitfulness of women: while from the known fruitfulness of other animals, which in essential parts of their bodily structure closely resemble the human race, it may be inferred by analogy. The two kinds of evidence strengthen each other. We begin with the latter.

The females of those species of animals, which bring forth only one at a birth, and which in their period and mode of gestation perfectly resemble human beings, are capable, when placed in favorable circumstances, of bringing forth every year, from the time when the power of bearing begins, until it ends, omitting one year occasionally. The years omitted, however, amount at most, only to a very small part of the whole series. Now the only peculiarity which authorises us to infer that our own species is naturally less prolific than others, appears to be this: the suckling of a child, if continued more than three months, often defers the next birth. Perhaps even this is not a natural peculiarity; but, at any rate, it is the only one, so far as we know, that releases the fruitfulness of human mothers from a strict adherence to the general rule.

To reason safely then, we should make an allowance for this circumstance. Let an ample allowance be made—more than sufficient to include all interruption whatever. Say that one birth in *two* years is natural to woman. In temperate climates, the period of child-bearing extends at least from seventeen to forty-five years of age. In warmer climates, it begins earlier, but it ends earlier. Let us keep within the mark, and say it extends only from twenty to forty years of age. After having conceded two years for each birth, there still remains time for ten births, which may be considered as not more than the number natural to women.

Though among the ill-fed and ill-kept children of very poor people, many necessarily die, under more favorable circumstances the mortality amongst children is not great. Fresh air, plenty of food, proper clothing and cleanliness, will be

found to render it absolutely small. It may be safely concluded, at least, that under the *most* favorable circumstances, only a small proportion of the children born, would die before the age of maturity.

For this mortality, however, and for occasional instances of barrenness, the most liberal concession shall be made—a concession amounting to one out of every two. Let it only be granted then that instead of ten children, each human pair, united at an early age, well supplied with the necessaries of life, and exempt from oppressive labor, will, one with another, rear but five.

Extravagant concessions have thus been made; no others can be demanded, with the least shadow of reason. Yet our conclusion, as it stands, shows that population can double itself in a moderate number of years. Accurate calculations are unnecessary; we see at a glance, that it is capable of doubling itself in a small number of years.

The same conclusion, completely as it establishes the natural tendency of population to increase with extreme rapidity, may be drawn from events which have actually occurred. It will be admitted without hesitation, that no state of society has hitherto existed, in which the manners of the people were so pure and simple, and the means of subsistence so abundant, that youthful marriage was never obstructed by the difficulty of providing for a family, nor waste of human life occasioned by vicious customs, crowded towns, unhealthy occupations, or severe labor. Consequently, in no state of society, has the principle of population, ever been free to exert its full power.

Yet in the Northern States of America, where the checks above named, though not inactive, have been less energetic than in other countries,

population has doubled itself in twenty-five years, for more than a century and a half successively. An ample deduction for emigrants is made in this estimate*. But, even during these periods, the deaths in some of the towns, exceeded the births; a fact which proves that in those parts of the country which supplied the deficiency, the increase must have been still more rapid than the average rate. In the back settlements, where agriculture is almost the sole employment, and where vicious customs and unhealthy occupations are least known, the people have doubled in fifteen years.

But even this rate, rapid as it seems, probably falls short of the possible increase of population. Very severe labor is required in clearing a new country, and its climate is never particularly healthy; while in this instance, the settlers have been subject to incursions of the Indians, which probably cost some lives, and at any rate diminished the fruits of their industry. If, in a given population, one out of thirty-six dies annually, and there are three births for each death, the population will double itself in twelve years and four-fifths†. These conditions are not imaginary; they have actually existed, for short periods, in more countries than one.

* The data on which this conclusion is founded, are principally the public documents of the United States. From a return made to Congress in 1782, the population appeared to be 2,389,300; and by the census of 1790, it amounted to 4,000,000. The increase in nine years therefore was 1,610,700; from which deducting for European settlers, 10,000 a year—90,000—and for their increase, at 5 per cent. for 4½ years, 20,250, the remainder will be 1,500,450. This gives an increase of nearly 7 per cent. in each of the nine years, from procreation alone; and at this rate, the period of doubling is less than 16 years.

† The formula of this calculation, and its proof, may be seen in Bridge's Algebra.

But for the sake of being sure that we are far within the truth, let the slowest of these rates of increase be taken: a rate as to which all testimonies agree, and which is well ascertained to have been the effect of procreation alone. It may be safely asserted then, that population, if rendered free to exert its full power, would go on doubling itself every twenty-five years; or increasing in a geometrical progression, the exponent of which is *two*. Leaving this conclusion at rest, for the present, we shall return, and take it up to compare with our conclusions concerning the increase of food, when they are obtained.

The exact rate at which the produce of the earth is capable of being increased, does not plainly appear. We may however easily discover, that it must be entirely different in its nature from the rate just attributed to population. The prolific principle in man, would double a thousand millions every twenty-five years, as easily as a single thousand. But it is evidently impossible that food to support man, should be increased at the same rate.

The known laws which govern the application of labor, to land, make this clear at once. As more and more labor is applied to land, the return to a given portion of labor is continually diminishing. At last therefore a man's labor on the land, will produce only enough to maintain himself. There will then be nothing to save, and the increase of capital, with the existence of livers on capital, must be at an end; every man must till the ground, if he would eat. It may perhaps be thought that this result is too remote for a subject of rational fear. The result, indeed, is remote; but the steps, —the progressive diminutions of the return to labor,—are present; and they are felt. Again, it may be urged, that *now*, at least, there is no

country in the world where more produce might not be raised.—Granted.

Let us suppose then, that by the joint influence of great agricultural improvemeuts, the wisest policy, and additional industry, the produce of an already well-cultivated country might be doubled in twenty-five years. This is an increase far above what we have any grounds for expecting. Let it pass, nevertheless.

But, in the next twenty-five years, it cannot even be supposed, that the produce could be again doubled, that is, could be made four times what it is now. All our knowledge respecting the properties of land forbids this supposition. The amelioration of the poor lands must be a work of time and labor; and to those who possess the slightest knowledge of agriculture, it must be apparent, that as culture was extended, and the land forced, the additions made to its yearly produce would gradually and regularly decrease.

For the sake of comparison with the increase of population, let us, however, make a supposition, which, if not correct, is at least far more favorable to the increase of subsistence, than any nearer the truth would be. Let the yearly additions that may be made to its amount, instead of diminishing as they certainly would do, continue the same. The produce of the country will then be increased every twenty-five years, by a quantity equal to that which it yields at present. The most sanguine speculator could not hope for a greater increase than this: in a few years it would convert the country into one universal garden.

If this supposition be extended, and we allow that the whole quantity of subsistence now obtained from the earth, might be augmented every twenty-five years by a quantity equal to itself, this

will be conceding a rate of increase far greater than we can imagine any possible exertions of mankind could effect. It may be safely affirmed, therefore, that under circumstances in the highest degree favorable to industry, the means of subsistence could not possibly be made to increase at a rate greater than is expressed by an *arithmetical* progression, consisting of the natural numbers.

The contrast between this progression and that which accords with the increase of mankind, under circumstances which *have* existed, is striking. Taking the actual population of the globe as 1, and its actual produce as 1, the human species will increase as the numbers 1, 2, 4, 8, 16, 32; and the means of subsistence as 1, 2, 3, 4, 5, 6. In two centuries, therefore, population would be to food, as 256 to 9; in three centuries, as 4096 to 13; and in a thousand years, the difference would be almost incalculable.

Our hypothesis sets no limit whatever to the increase of the earth's produce. This may go on increasing for ever, and become greater than any assignable quantity: yet the other rate of increase being at every period so immensely superior, there must be a strong natural tendency in population—not, strictly speaking, to outstrip the means of subsistence, for this is impossible—but to press on them continually, until the share falling to every individual is rendered barely sufficient to sustain existence—until society at large is reduced to a herd of miserable paupers—and war, famine, and pestilence are glutted with the wretched abundance of human life.

SECTION III.—*Moral restraint: its influence on wages; and claims to our obedience.*

From the foregoing investigation, it appears totally impossible, that the wages of labor, in any country, should ever be raised to a high rate, and retained there, by exertions to increase capital alone. If, therefore, amongst the numerous causes more or less under the control of man, which check the increase of population, there is any such as may become an intelligent, accountable being, either to set in motion, or to assist, it must be of the utmost importance to discover and apply so valuable a corrective.

Though the ultimate limit to population is the want of subsistence, this is never the immediate check, except in cases of actual famine. The immediate checks obviously consist of all those customs, and all those diseases, which seem to be generated by want; together with all the causes independent of want, which tend prematurely to weaken ond destroy the human frame. Checks of this nature are constantly acting, with more or less energy, in every society, and keeping its numbers level with the means of subsistence; by this means silently and slowly stealing away the excess of life that would otherwise fall a victim to the merciless appetite of famine. Population is what it is, not because there is wanting a strong tendency in the human race to increase, nor because capital is capable of being increased to the required extent; but because these checks are in constant activity, by their silent ravages wasting away the necessity of famine. They may all be classed under two general heads: the Preventive and the Positive Checks.

The Positive checks to population are extremely various, including every cause, arising either

from vice or misery, that contributes to shorten the natural duration of human life. Such are unhealthy occupations, severe labor, and exposure to the seasons, extreme poverty, ill-nursing of children, crowded towns, excesses of all kinds, the long train of common diseases and epidemics, wars, plague, famine. In this black catalogue of human woes, there is not one, which every man of feeling must not ardently desire to see diminished, rather than increased. We cannot therefore turn here for relief.

The other class consists of all those causes by which the birth of children is prevented. These checks, so far as they are voluntary, are peculiar to the human race, and arise from its distinguishing attribute—Reason; which enables us to calculate distant consequences. The partial checks to the increase of plants and animals are all positive; or if any are preventive, they are involuntary. But man cannot look around him, and observe the distress which often presses on those who have large families—he cannot contemplate those possessions or earnings which are little enough for his own support, and estimate the amount of each share, when with a very scanty augmentation they must be divided, perhaps amongst seven or eight—without doubting whether, if he indulge his inclinations, he shall be able to support the offspring that he is probably about to bring into the world. In a state of equality, if such there can be, this would be the simple question; but in the actual state of society, other considerations arise. Will he not be thrust down from his rank in life, be obliged to forego his present habits, and relinquish his present associates? Does any mode of employment offer itself by which he may reasonably hope to support a family? Will he not,

hoping the best that can be hoped, subject himself to more severe labor, and greater difficulties, than are to be expected in a single condition? Will he not be unable to procure what every father desires for his children,—the same advantages of education, and establishment in the world, that he himself enjoyed? Does he even feel secure that, should he have a large family, his utmost exertions will save himself and them from squalid poverty, rags, and contempt? And may he not be reduced to the loathed necessity of forfeiting his independence, and looking to the ungracious hand of Charity for a share of her bitter bread?

Such reflections are suited to prevent, and they certainly do prevent, numbers of men in every civilized community, from obeying the dictate of nature in forming an early attachment to one woman. The restraint thence originating may produce vice, or it may not: its consequences in each alternative deserve attention.

The most obvious of the vices which restraint from marriage is liable to produce are unnatural passions, violations of the marriage-bed, promiscuous intercourse, irregular connexions, and immoral practices to destroy and conceal their consequences. These are checks to population even more detestable, though perhaps less powerful, than most of the positive checks. Promiscuous intercourse and violations of the conjugal tie—perhaps the least hateful of a collection in which all are pre-eminently infamous—bring forth fruits which are easily appreciated.

Promiscuous intercourse, especially when carried to such a length as to prevent the birth of children, seems to lower in a most striking degree the natural dignity of human nature. It has this effect even on men; and nothing can be more

obvious than its tendency to degrade women, and destroy all their most amiable and distinctive virtues. To these evils we may add the real misery that it inflicts. Amongst those abandoned females who abound in all cities and large towns, there is more actual want, disease, despair, and every black ingredient of extreme wretchedness besides, than can be found perhaps in any other department of human life.

When a general corruption of morals with regard to the sex pervades society, it must either make prisoners and slaves of women, or else poison the springs of domestic virtue and happiness, weaken conjugal and parental affection, and lessen the united exertions and ardor of parents in the care and education of their children. These effects cannot take place without a marked diminution in the general happiness and virtue of society: more especially as the cunningly devised lies and deceptions required in the conduct and accomplishment of illicit intercourse, together with the artful concealment of its consequences by violent measures, necessarily lead to many other vices.

When forbearance from marriage does not produce vice, it is, at any rate, the least of all the evils which proceed from the principle of population. Considered as a restraint on a strong natural passion, we must allow that such forbearance produces a certain degree of unhappiness. But this is almost trifling, compared with that which result from any other of the checks to population; and is merely of the same nature as the uneasiness that accompanies many other sacrifices of present to permanent gratification, which, nevertheless, it is the business of man, as a moral agent, continually to make. This therefore is the check to population, after which we have been searching.

It may be distinguished from the other checks, by the name, Moral Restraint. Now as to our duty to practise it.

It may be as well to anticipate objections, by admitting, most fully and cordially, all that can be said in favor of marriage. The marriage union cannot be valued above its worth. It creates the tenderest ties that encircle the heart; and the purest, highest delight that man can derive from sources less than divine. Happiness, flowing from this union, runs like a golden thread through the dark yarn of human life. So high an estimate, however, can only serve to make the required sacrifice appear greater: it cannot touch the necessity for making that sacrifice.

Love, the desire of offspring, and the appetite for domestic consolation and comfort, are the passions which impel men to marry. These, like all other passions, are good in themselves; but productive of happiness or misery according as they are regulated. If we are gluttonous, our health suffers; if we are transported with anger, we commit actions that gnaw us with remorse; if we are avaricious, we torture ourselves and rob others; and if we multiply too fast, we die miserably of poverty and disease. Implicit obedience to the dictates of our best passions will plunge us into the most fatal excesses. Reason is given to man for their control—for the control of the passions in question no less than the rest; and he is bound to use reason for its appointed purpose.

There can be no crime in the exercise of moral restraint: it leaves no positive duty undone, no prohibition broken through. Since, then, it is not at war with virtue, and is the only corrective of redundant population, (under the control of man,) concerning which this is true, there can be no doubt of our obligation to practise it.

The argument at this stage stands thus:—The great majority of the people are dependent on wages. Wages cannot be sufficient to maintain them in a desirable condition, if the supply of labor is greater than the demand. The demand for labor depends on the supply of capital. Capital is not capable of being increased so fast as population. If every person marry at the age of puberty, population will certainly outstrip capital, and wages will become low. This will occasion want, misery, and mortality.

Hard as may be the sentence then, some ought to refrain from marriage; and those who have not a fair prospect of supporting a family without assistance, are the persons who ought to refrain. If these marry, they injure themselves and their children, and they injure society at large. They and their offspring must partly depend on charity, yea must be wretchedly poor, and can scarcely escape being equally vicious. When the children grow up, they are new laborers thrown into a market already overflowing; and even should they chance to earn what they eat, little as this must be, it is so much taken from the miserable pittance of others. Conduct which, except from chance, is followed by consequences so frightful as a whole life of misery for a whole family, and a certain addition to the vice and wretchedness of the community, must surely be criminal.

According to the genuine principles of moral science, "the method of coming at the will of God from the light of nature, is to inquire into the tendency of an action to promote or diminish the general happiness." He who forms a reckless marriage, therefore, commits an offence against the will of God. Having become a burthen on society, and plunged himself and his family into a

situation where virtue is preserved with greater difficulty than in any other, he has listened to the voice of passion in spite of higher obligations, and has violated his duty to himself, to his neighbour, and to his God.

On the other hand: an opposite course of conduct must be followed by the happiest effects. If to stifle the desire of immediate gratification, because its threatened result is a large over-balance of pain, were once considered and practised as a duty, no man with earnings little more than sufficient to maintain himself, would blindly rush into an engagement to maintain others; however powerfully he might be tempted, by the passion of love, the desire of offspring, or dreams of domestic happiness. This prudential restraint, if generally exercised, would control the supply of labor, and therefore must augment its price.

The period of restraint undergone, might often be passed in saving from earnings, which, though too little for the support of a family, were more than enough for a single person; and in acquiring habits of sobriety, economy, and industry. A few years of such conduct would enable most men to marry without fear of want. Nor is it necessary that the passion of love should be absent during this period: it were better that it should not. Its sincerity would then be proved; and instead of being enfeebled by early sensuality, or extinguished by forbearance, it would afterwards burn with a brighter, purer, and steadier flame. Thus hope would lighten toil, and stimulate carefulness. Marriage would be looked forward to as the prize of industry and virtue, and the reward of a genuine and constant attachment, instead of being seized carelessly, as a fleeting indulgence.

When such conduct gained ground in a society, disease and mortality would diminish. Out of fewer births, more adults would be reared; a circumstance highly gratifying to the humane man, and not less so to the mere economist. When a child dies, all that he has consumed is for ever lost to society: it is an expenditure for which there can be no return. The prevention of every premature death, therefore, is a positive saving of wealth, besides pain and sorrow. How little is this thought of in Hindustan!

The prevalence of moral restraint would also remove one of the principal encouragements to offensive war. If the distresses of the poor did not drive them to the bloody standard, the ambition of princes would lack instruments of slaughter. Every recruiting serjeant prays for a bad harvest, and want of employment; or in other words, for a redundant population.

The same course of action would also powerfully tend to eradicate those two fatal political disorders, internal tyranny, and internal tumult. The dregs of a redundant population, goaded to madness by real suffering, but utterly ignorant from what quarter it comes, are materials exactly fitted for the artful demagogue. He easily persuades their distempered reason, that *misgovernment* is the source of all their woes. The government is then revolutionized; but to the astonishment of its reformers, the distress is far greater than before. New commotions succeed—new changes—and new miseries. The tyranny of a mob is the most dreadful of all tyrannies. Fickle and cruel, mighty for evil, but impotent for good, its footsteps lead only from bad to worse. Who can wonder then that the majority of well-disposed people, finding moderate strength wholly unequal

to the contest with popular licence, should, as the least of two evils, arm a government with power which that government may abuse?

Remove all apprehensions of danger from the tyranny and folly of the people, and the tyranny of governments could not survive a moment. It would appear in all its native deformity: without pretext, and without defenders. Talent, principle, property, would then come over to the right side; the lovers of freedom would no longer be compelled to wink at oppression, by the dread of greater evils; and tyranny, naturally feeble, and now stripped of its strong plea, necessity, and hence of public opinion, would fall without a struggle.

These are some of the blessings which reward the extensive practice of moral restraint, or forbearance from marriage, *accompanied by strict chastity*. To show them all, we must describe every feature of a free, prosperous, and happy people. But this may be acknowledged; and yet, severity in the conditions, on which alone the good is attainable, with the risk incurred, while endeavoring to fulfil them, of increasing licentiousness with regard to the sex, may still be urged as excuses for neglect of the means, or reasons for failure in the end.

The condition requiring a chaste life can never be waived. It may be found difficult. But the path of virtue is always difficult. This must not, however, discourage us from pursuing its upward track. Of this particular obstacle, it may be said, that the evils resulting from dissolute manners with respect to women, though neither to be denied nor palliated, are not by any means equal to those which flow from poverty; the prolific source of every evil under the sun, unchastity not excepted. Abject poverty, joined with idleness, is a

state extremely unfavorable to chastity. The passions are as strong in this, as in other situations, while every restraint of self-respect and morality is wanting. Through forbearance from marriage, lapses from chastity will certainly occur; and so far virtue is wounded, though it may not very strikingly suffer: but the continual temptations that beset hopeless poverty, and the deep sense of injustice which usually lies festering in the hearts of very poor men, tend so powerfully to sour the temper, harden the heart, and deaden the moral sense, that generally speaking, virtue flees quite away from the tainted spot, and will not return.

Besides, those who defer marriage from conscientious motives, may fairly be expected, and called upon, to regulate their general conduct by the same. They will acknowledge that abstinence from marriage and chastity are both duties, both necessary to happiness, both enjoined by God and nature; and that, however great may be the temptation, no earthly power can absolve us from obedience to either. On the whole, there is no reason to conclude that a greater prevalence of prudential restraint in the article of marriage—conduct in all other respects eminently favorable to virtue—would aggravate the vice of unchastity.

Another argument against the principle of population, and its practical deductions, has been founded on the assertion, that a good God would not, by the laws of nature, bring men into the world, which, by the same laws of nature, could not be provided with sustenance. This, however, is a mistaken, because a partial view of the subject. If we consider that from the principle of increase flow the vigor of our industry, and the development of our faculties, and that the evils arising

from it may be counteracted by a strict obedience to the duties pointed out to us by the light of nature and revelation, this doctrine, and the goodness of God, will appear to be, as they are, in perfect unison. Our natural inclinations to marriage are admirably fitted to bestow happiness, provided they are indulged only under the restraints which reason and religion clearly prescribe. In this they are precisely like all other passions.

The old heathen moralists never represented happiness as attainable, except through the medium of virtue. But amongst their virtues, prudence ranked first, and was sometimes even considered as including every other. Christianity teaches us that our existence on earth is a state of discipline and trial. The principle of population is a law peculiarly suited to such a state: indeed, perhaps not one amongst all the laws of nature more directly tends to elucidate and confirm the scriptural view of man's condition on earth. His path, though beset with perils—with one originating in the principle of population, amongst the rest—may yet be trodden safely, none being inevitable, by the hallowed lamp of revelation. It must be allowed, therefore, that the ways of God to man with regard to this great law of our nature can be completely vindicated.

The poverty of the people has often falsely been ascribed to the institution of property, and the injustice of the rich. An equal division of property, it is pretended, would make enough for all; and there would be no need that abstinence from marriage should be endured by any. Now suppose, in a certain country, the institution of property were abolished. Suppose also, the vices and wretchedness attributed to it are removed at the same time: that all men are equal, and desirous

of remaining so: that luxury, and the labor spent in its service, are at an end: and that the necessary toil of agriculture is amicably shared amongst all. Suppose also, the intercourse of the sexes established on a footing of perfect liberty. The love of change is a corrupt and unnatural taste, and could not prevail to any great degree in a simple and virtuous society. Each man therefore would probably select a partner to whom he would be faithful so long as matual inclination remained. The wildest enemy to property could scarcely wish for a subversion of the institution more complete, or for the substitution of a system more happy, than this.

But the first point that strikes the eye in this fair picture, is the unexampled facility afforded to the increase of population. The irremediableness of marriage in our societies, deters many from entering into the contract. But a contract dissoluble at pleasure, would be a powerful incitement to marriage. Children would belong to the state, or at least be entitled to a share of the annual produce; no anxiety concerning their maintenance would deter from marriage; and, in short, almost every woman of twenty would be a mother. Population must increase, under such encouragements, faster than has ever been known. If, which is scarcely to be expected, the same vigor of industry remained when all men toiled for the community, that existed when each toiled only for himself, the produce of the country might be greatly augmented. But it could not keep pace with the population. In half a century, if a just distribution continued so long, the share of each individual would be a pittance barely sufficient to sustain life. Supposing the produce trebled in this time, which is an extravagant supposition,

population would be more than quadrupled. By the conditions, none even at first, could be more than frugally maintained; and therefore a portion from which there is nothing to spare, must be reduced at least one-fourth. It is impossible that misery should thus long have passed over this society: it must have begun its work.

The hateful passions that we hoped banished for ever, then re-appear. The spirit of benevolence, blooming and vigorous in the sunshine of plenty, is at once killed by the rude breath of want. The mighty law of self-preservation expels all the softer and more exalted emotions of the soul. The temptations to evil become too strong for human nature to resist. Corn is plucked up before it is ripe, or secreted in unfair proportions; and the whole train of vices that attend falsehood is immediately generated. Food and clothing are no longer willingly allotted to the young and the feeble. Benevolence, yet lingering perhaps in a few bosoms, makes some faint struggles, and expires; when self-love resumes his ancient empire, and reigns triumphant in every heart.

The pressure of want could not continue long, before violations of the public stock would take place; and as they became more extensive, the annual produce, in spite of the increasing population, would certainly diminish. It would then be seen that the question was no longer whether a man should give to another what he himself did not use, but whether he should be compelled either to give his neighbour that which was absolutely necessary for his own existence, or to withhold it by force. In order to prevent strife, and to arrest the alarming diminution of the annual produce at any hazard, a division of the land, and the establishment of property, would probably be suggested.

To the objection, that in the course of time and accidents, some might obtain possession of much more than sufficient for their support, while others would have much less; and that if the reign of self-love were once established, the former would not supply the latter without compensation: it might be replied, that these were evils greatly to be lamented; but that they were evils which bore no comparison to those occasioned by insecurity of property: that the quantity of food which each man could consume was limited by his appetite: that it was not likely he would throw away the rest: and that if he exchanged it for the labor of others, even this would be infinitely better than that those others should starve.

It seems highly probable, therefore, that an institution of property, not very different from that existing in civilized states at present, would be established, as the best, though it could not prove an adequate remedy for the evils which pressed on the society.

Another thing urged by those who had searched out the true cause of their difficulties would be, that while every man felt assured of his children's being supported by the general benevolence, the powers of the earth must be unable to produce food for the population that would ensue. That even if the care and labor of society were directed to this point alone, and if, by the most complete security of property, and every other encouragement that could be devised, the greatest possible increase of the earth's produce were obtained, yet all could not suffice to make food keep pace with the far more rapid increase of the people. Some check to population would therefore be strongly called for.

The most obvious check in the world is to make every man provide for his own children. This

might be expected to operate as a guide to the increase of population; for it might be thought that no man would bring into the world beings whom he could not support. If any did this, the disgrace and inconvenience of such conduct would, for the sake of warning others, be laid on the person who so thoughtlessly plunged himself and his children into want. The institution of marriage, or at least of some obligation, direct or implied, which would throw on each individual the whole care of his own children, seems the natural result of such reasoning upon the difficulties experienced by this community.

When these two fundamental laws of society—the institutions of property and marriage—were once established, inequality of conditions must necessarily follow. Those who were born after the division of property, would enter a world already possessed; and many would find the share of their parents too scanty for their support. They could not demand the surplus in possession of others, as a right; and, in time, the number of these destitute beings, increased by improvidence, misfortune, and vice, would become greater than the most active benevolence could supply. Moral desert is a difficult criterion, except in extreme cases. The owners of surplus produce would therefore seek a more obvious mark to guide them in dispensing what they did not want; and it seems natural, and just, that their choice should fall on such as were able and willing to help them in procuring a further supply of produce, which would at once benefit the community, and those for whom it was produced. All who were in want would be compelled to offer labor, their only possession in exchange for food.

The fund for the maintenance of labor would

be the aggregate surplus of food above what was required by the owners of the land. If the demands on this fund were few compared with its extent, it would be distributed in large portions: if many, in much smaller portions. In the latter case, labor would be ill paid, and the rearing of families would be checked by the combined influence of want, sickness, and vice.

Thus it appears that a society constructed on the most beautiful form that imagination can conceive, with benevolence instead of self-love, for its moving principle, and with reason instead of force, for the corrective of evil dispositions in its members, would, from the inevitable laws of nature, and not from any fault in human institutions, soon degenerate into a society not essentially different in structure from those which prevail at present; a society divided into a class of proprietors, and a class of laborers, with self-love for the moving power of the great machine.

The absence of those natural rewards and punishments which are best suited to unfold the latent energies and faculties of man, and to exercise and improve human virtue, is itself a conclusive argument against systems of equality. But this is most powerfully supported by that arising from the tendency of population, under every such system, to increase faster than the means of subsistence, unless prevented by measures infinitely more cruel than the laws of property, and the moral obligation imposed on every man to maintain his own children.

In a state of perfect equality who are to be called on for the sacrifice of so great a blessing as domestic happiness? How great soever the general inability to maintain children may be, no one will feel it more heavily than another; why

then should any think *himself* the person called on to make this sacrifice? Is it to be exacted by law, and enforced by punishment? The measure is fatal to the whole system; it can be equality no longer.

Yet, as it is absolutely necessary, to prevent the most overwhelming distress, that some check should be imposed on marriage, can the most fertile brain conceive any at once so natural, so just, so consonant with the laws of God, and the best laws of man, as the making of each individual responsible for the maintenance of his own children; that is subjecting him to the natural consequences of his own actions, and to no other check whatever. The existence of this natural check now depends wholly on the laws of property and succession; but in a state of equality and community of goods, it could be created only by some artificial regulation, far more inimical to liberty and happiness than these*.

If the complete equalization of property is inadequate to prevent want, and the need of moral restraint, much more are any partial measures of the same nature; such as taxation of the rich for the support of the poor. The obvious tendency of all such measures is to augment the number of sufferers, by impoverishing the rich, and by encouraging the increase of population. They encourage population by teaching the poor man that he has a *right* to the property of others, when his own exertions are not worth his food. Depending on this resource, he marries, whether able to support a family or not, and increases a supply of

* This is one of the strongest arguments for appropriation of the land, and security of property, though it could not be used in Chap. VIII. because the principles on which it rests had not been established.

labor already redundant. His children, misled by the same cause, commit the same error. Thus distress is aggravated instead of relieved.

Poor-laws clearly impoverish the rich. Taxation for the relief of pauperism is in its nature progressive. The more is raised for the purpose, the more will be necessary in future. The farther we proceed in this path, the farther are we from its end. No possible sacrifice on the part of the rich can eradicate the evil; and the greatest thing such laws can accomplish, is the making of all equally and wretchedly poor.

The doctrine that the poor have no right to support when their labor will not purchase it, has been denounced as infamously cruel. Did the right exist, it would be cruel to proclaim it, since its fruits are certain want and misery to the possessor. But it does not exist; and therefore, to assert it, is cruel in the extreme. No right can exist, where the performance of the reciprocal obligation is impossible. Now the rich, even were they willing, could not maintain the poor; and for this simple reason, the poor have no right to support.

If this right does exist, how criminal must we all be, in practically denying it, by retaining what in consequence, ought to be given to the poor. Can it be pretended for a moment, that the mutton which I ate to-day, should not, in this case, have been given to my neighbor, who has not enjoyed a plentiful meal for a month! Yet I felt no sense of guilt in eating. The only plea on which this, and other parts of my conduct are justifiable, consists in the known fact, that should the wants of the poor be systematically relieved, as they ought to be, if the right exist, they would increase beyond the possibility of relief, even though my

own and every other person's fortune were totally swallowed up in the attempt. The practice of those who assert the existence of the right in question, is extremely inconsistent with their principles.

As the exercise of moral restraint is so conducive to the general happiness, we are obliged, not only to practise it ourselves, but to inculcate the duty on others; to hold dependent poverty arising from improvident marriages highly disgraceful; and to direct, so far as lies in our power, strong public disapprobation on the offending persons.

Every individual is the centre of a circle, large or small; and many around him may derive benefit from his advice and example. The classes above the poor are criminal, if they allow any opportunity of inculcating moral restraint to pass unimproved. Few, even of the poorest workmen, are incapable of understanding the simple dependence of employment and wages on capital, and the tendency of improvident marriages to render employment scarce and produce want, the moment these things are brought to their notice. It can scarcely have escaped the dullest mechanic, that in his own, or any other particular employment, the scarcer workmen are, the better they will be paid. How easy to extend this inference, and lead him to see that prudence in marriage is the only moral means of raising wages; that governments, if willing, are without the power to do it; and that the happiness or misery of poor men depends chiefly on themselves.

It would also seem easy to convince even a poor and illiterate man, that the command to increase and multiply, which he has received from a merciful God, cannot be intended to sanction his acting so as to produce poverty, disease, and death, instead of happiness and increased numbers.

Indeed he cannot fulfil the command, at least his obedience will not be effectual, except he makes provision for the life and happiness of his offspring. He might surely be convinced that it can never be right for him to marry, unless he can perform this plain duty.

To the classes above the poor, might be exhibited, as a warning, the distressing sight which too often occurs, of a man, once noble and ingenuous, alive to every dictate of honor and integrity, now gradually sinking under the pressure of circumstances, making his excuses at first with the flush of shame; afraid to look his friends, from whom he has borrowed money, in the face; reduced to the meanest tricks and subterfuges to delay or avoid the payment of just debts; till, at last, becoming familiar with deceit, and at enmity with the world, he loses all the dignity of man.

Dependent and acquiescent poverty ought to be held disgraceful. Hard as this may bear on particular instances, "'tis a wholesome rigor in the main." Nothing like manly feeling, conscious worth, or, scarcely, integrity, can exist in an individual who depends on the caprice of another for his daily bread. The Hindus are extremely lax in this point. Dependence amongst them is shamefully common, especially on the slightest pretext of relationship. The servility, flattery and meanness, produced by this cause, can scarcely be conceived. Every great house is filled with the most abject ministers of the rich man's pleasures, vices, and appetite for sycophancy, perhaps in the whole world. These wretched creatures will submit, day after day, to any indignity and meanness, rather than work. Happy would it be, should the rich acquire such a taste for personal luxuries as would absorb their incomes, and drive their miserable dependants to be industrious.

Much might be effected by public opinion, could it once be strongly directed against early and improvident marriages. Many would hesitate to commit an action for which their neighbours might reproach them in the day of misfortune; a time when reproach is least endurable. But the most effectual method of enlightening public opinion on this, as well as other points, will be found in education—*Popular* education. This will show those whom it most concerns, that the duty of man is not simply to propagate his species, but to propagate virtue and happiness; and that unless he can see a fair prospect of doing this, he is by no means called upon to perpetuate his miserable name by leaving descendants.

If there is any such thing as a universal medicine, it is knowledge. Whenever we discover an evil, then do we find that knowledge is its sure remedy. Political Economy is one long commentary on this text; but in no point does the science throw more light upon it, than when treating of the happiness of the poor. The true secret of assisting the poor, is to make them agents in bettering themselves. As the standard of intelligence is raised, the poor become more and more able to aid any plan for their advantage; more ready to listen to any reasonable suggestion, more able to understand, and therefore more willing to follow the same. Hence, when gross ignorance is once removed, a great advantage has already been obtained over poverty. Many avenues to an improved condition are open to one whose faculties are enlarged and practised: he distinctly sees the way to his greatest good; and he will not, in a rash moment, mortgage the happiness of his future life for an enjoyment which entails upon him only penury and vice.

All good men unite in the prayer that the condition of the people may be improved. They have

great hopes that their prayer, joined with their exertions, will be effectual. They see that every improvement in the arts of life does improve the condition even of the most humble, and tend to lessen the inequalities which exist in the distribution of wealth. But if the poor are to attain that share of the blessings conferred by science and industry, which they may attain, they must win these blessings by their own moral elevation. They cannot snatch them by violence; they must earn them by peaceful and steady exertion. This great triumph, to use the language of Chalmers, will not be the achievement of desperadoes. It will come through a more peaceful medium—through the medium of growing worth and growing intelligence amongst the people. It will bless and beautify that coming period when a generation, humanized by letters, and elevated by Christianity, shall, in virtue of a higher taste and larger capacity, cease to grovel amongst the sensualities of reckless dissipation.

The duty of governments, with respect to popular education, is clear as the noon-day. The opinion of the people is hostile to the security of property, only because they are ignorant. Now the clearing away of this single error from the public mind, would do more towards the prevention of crime than a legion of police. By engaging a countless host of eager and active volunteers in the service of criminal justice, it would strengthen the arm, and heighten the terrors of the law.

For if the people saw distinctly the tendency of offences against property, together with the tendency and reasons of punishment, they would become determined and eager in pursuing criminals to justice. The laws therefore could seldom be

broken with impunity; and, in consequence, they would seldom be broken at all.

But owing to the error in question,—the mischievous error concerning property,—fear of public disapprobation scarcely operates at all, in deterring the poor from offences against the property of the rich. For every man's public is formed of his own class: of those with whom he associates: of those who, by their favorable or unfavorable opinion, sweeten or embitter his life. The poor man's public is the poor; and the crimes which merely affect the property of the wealthier classes are regarded with little, or rather with no abhorrence, by the indigent and ignorant. Not perceiving that such crimes are equally pernicious to *all* classes, they are prone to consider them as *reprisals* made on usurpers,—on common, natural enemies. They regard the criminal with sympathy rather than with indignation. They are inclined to favor, or at least to connive at his escape, rather than to lend their hearty aid in bringing him to justice.

Most governments think it their duty to provide jails, judges, and hangmen, for the terror of the poor, and the security of the rich. Are preventive measures less humane, less efficient, less for the common good? Would to God, rulers could once be convinced that it is even more their duty to prevent crime than to punish it—to provide the school-master, than the hangman!

The doctrine of population is extremely fruitful in consequences the most important to society that can be imagined. To pursue it so far as it deserves, would be inconsistent with our limits and design. Some of the more striking deductions have been displayed; and from them it appears, that the happiness or misery of societies is, in a

great measure, beyond the control of governments; that the rate of wages does not depend on the will of the capitalist, but on the poor themselves; that the poor should be taught this; and taught that the great remedy for their distresses, lies in the exercise of MORAL RESTRAINT.

SECTION IV. THE EFFECTS OF MACHINERY ON WAGES. Scarcity of employment, and low wages, having been traced to their real origin, we shall not be embarrassed in our estimate of machinery by its apparently discordant effects on the happiness of the poor. Every laborer stands in a double relation to wealth; he is a consumer, as well as a producer. Now that machinery, by increasing production, and saving labor, is highly favorable to him in his character of consumer, cannot be denied. Still there are many, who, allowing this, yet attribute the distress, arising from want of employment, which falls on him in his character of laborer, to the same cause. Thus they are doubtful whether to bless or to curse machinery. It is obvious, say they, that if in any branch of industry, there is employment only for a certain number of workmen, the introduction of machines to do the work of half that number deprives so many of employment. This is true; but when from these premises they draw the conclusion that machinery lessens employment on the whole, a fallacy creeps in, which it is now our object to expose.

It may, however, be observed on the threshold, that every evil attributed to machinery, must also, if we are consistent, be ascribed to augmented skill and dexterity in the laborer himself. If the use of a machine for making stockings be an injury to the laborer, because one person with the machine can make as many pairs of stockings as two could make without it, the same injury would

be inflicted if the person who knits three pairs of stockings in a week should, from increased dexterity, become able to knit six pairs in the same time.

Again: let us suppose that by increased skill and the use of machines, together, the productive powers of industry were universally augmented; and that thus every workman could produce twice as much as he did before, The shoe-maker, who formerly made only one shoe in a day, would then be able to make two. But as every workman would enjoy a similar advantage in his own department, the shoe-maker's labor would purchase double the quantity of produce that it did before the augmentation of its power; and the labor of every other workman would increase his command over the necessaries and comforts of life, in the same degree. The condition of society in such a case must be happy in the extreme: the necessaries, conveniences, and luxuries of life would be universally diffused. Is it not unaccountable then, that any step towards this condition should glut the market, and prove extremely injurious?

It may be taken for granted, that every cause which increases the annual produce, is highly favorable to the increase of capital. Now every machine does increase the annual produce, or else it is useless. More is made with equal labor, and the same labor being employed, more is made on the whole. The rate of wages has been shewn to depend on the proportion between the funds for the support of labor, or capital, and the number of laborers. Machines tend to augment this proportion: they augment the capital of the country, and so far as they affect employment, they must greatly increase its quantity. Did not the number of laborers increase, they would also greatly augment the rate of wages.

Even at the moment of introduction, a machine does not take anything from the fund which maintains labor, and therefore cannot diminish the demand for labor. Of the capital previously employed, part will be appropriated to the payment of labor spent on the machine; another part to the payment of those who use the machine; and if any remains, it will not be idle, and it cannot be employed profitably except in the purchase of labor. The use of capital is altered, but the amount used, is the same; and employment, on the whole, cannot for a moment be lessened.

It may however be said, that after the introduction of machines, the same amount of capital will not be needed to produce the required supply of an article; and will not be employed, because it cannot be employed profitably. This is an event which seldom occurs. It is, however, possible. But its worst consequence appears to be an alteration in the manner of employing capital. If the demand for an article is not increased by the fall of price, which always follows the introduction of machinery, capital will be withdrawn from the manufacture. But the expenditure saved to the consumers by the reduced price of one article, will increase their power of purchasing others. Thus a new demand will spring up in other quarters; and consequently, a new field will be opened for the capital deprived of its old employment. Whatever inconvenience arises from this transfer of capital, must be temporary.

The introduction of machinery always lessens the cost of production. This has an ultimate, sometimes an immediate, and astonishing effect on the demand. A small reduction in the price of an article, both increases the consumption of its usual purchasers, and brings it within the reach of new

classes. The manufacture is thus extended; the machines are multiplied also; and yet the whole number of laborers employed in producing the article, is often doubled and trebled. Should the supply of labor in the country continue the same, they will certainly obtain higher wages; and though the supply, from the weak influence of moral restraint, is increased, and this happy result does not follow, the benefit is still real: the wages of labor are not so low as they must have been, had not the machines been introduced. Instead of decreasing employment, therefore, the introduction of machinery powerfully tends to augment it, and to raise the wages of labor.

There are multitudes of manufactures in which these effects have been experienced. In two, printing and the cotton manufacture, the true influence of machinery is beautifully apparent. It is now 400 years since the art of printing was invented.

Before that time books were enormously dear; though we learn that the copyists were extremely ill-paid. The invention of printing at once put an end to the employment of copyists; as a single printer, with his machines, could do the work of two hundred writers. Did the printing press then lessen employment? No: it acted as all other machines act. The cost of book-making became comparatively trifling. In place of one writen book, a thousand printed ones were immediately sold. The ignorant were encouraged to read; the learned, to write. Instead of a few copyists, thousands of workmen, such as letter-founders, printers, paper-makers, binders, and book-sellers, were furnished with employment. The machines have often been improved: with every improvement, the cost of printing has been lessened; and the demand for books has continued to increase, up to the present

moment. Instead of being expensive luxuries of the rich, books are now the entertainers, the guides, the comforters, the best friends of the poor.

The cotton-manufacture presents an equally remarkable illustration of the same principle. In 1760, it is said that 50,000 spindles were employed in spinning cotton by hand. The work of the distaff, then carried on in districts partly agricultural and partly manufacturing, was performed by the laborers in their own houses, and at spare hours. Fifty thousand people therefore were not fully employed in spinning cotton. It was an occupation to *assist* in maintaining a family, not a means of their complete maintenance. The introduction of spinning machines deprived all the hand spinners of employment. But on the authority of a manufacturer of fifty years' experience, Mr. Say informs us that ten years after the introduction of machines, the number of people employed as spinners and weavers was more than forty times greater than when the spinning was done by hand. Cotton goods, which before were worn only by the rich, fell greatly in price, and were instantly required in much larger quantities. Every improvement made in the machinery since has been found to increase the demand, by decreasing the price of the article. So universal is the enjoyment of this valuable auxiliary to cleanliness, comfort, and health, now diffused, that in 1825, the spinning machines of Lancashire alone produced more yarn than twenty-three millions of people could have made with the spindle and distaff. At the same time, the whole amount of human labor employed in the cotton manufacture, has increased at least a hundred-fold. Besidis the additional hands engaged strictly on the cotton itself—one million and

a half, instead of fifty thousand—multitudes are constantly employed in constructing machinery, in procuring coals and iron, in erecting manufactories, in conveying the materials from one place to another, and in building and navigating ships to fetch the raw cotton, and export the manufacture.

Similar consequences have followed the introduction of machinery into another department of industry, before our own eyes. The art of engraving on steel, invented about eight or ten years ago, chiefly consists in a very ingenious multiplication of the engraved plates, by machinery. Impressions from the original plate are taken on soft steel, which impressions, being in relief, are hardened, and then used to make other impressions, like the original plate, and equally fit for printing on paper. It was said that this art would infallibly ruin the engravers; for as each steel plate will produce many thousand copies on paper, while a copper-plate is worn out in producing one thousand, and as besides this, the engraving of one copper-plate serves to make many steel-plates, it was taken for certain that fewer copper-plates would be required. Yet in spite of these forebodings, engravers were never so flourishing as they are at this moment. The price of engravings being considerably reduced, they are brought within reach of thousands who never could have procured them at the former prices. Hence thousands of copies are sold that would not have been called for had not the improvement been made; the employment of paper-makers and machine-makers, as well as of engravers, is increased; and an elegant enjoyment is rendered procurable at a trifling expense; while the art of engraving itself is improved. As the number of copies produced from a single engraving by hand

is so great, in finishing this one, cost is disregarded. The publisher can afford to lavish expense upon an original, and the engraver is excited to superior excellence by the liberality of his reward.

Many other instances might be adduced, but these are sufficient for our purpose. The error in the conclusion, that because the introduction of a machine deprives certain laborers of a certain employment, it absolutely lessens the whole quantity of employment, is surely laid bare. Machinery never lessens employment for a moment; but eventually besides adding extensively to the comforts of the poor, each new machine becomes a most powerful cause of increased employment, because it increases the funds by which labor is supported.

Touching an opinion sometimes entertained, that owing to the increase of machinery, the power of production will at last outrun the demand for produce, and cause a general *glut*, we may safely pronounce, that the event anticipated, is impossible, and the opinion itself absurd. The immense power of increase which resides in population, and the ever-craving nature of man, preclude all apprehension that the mere desire of commodities will ever be satiated. The only question then is concerning the power to furnish an equivalent. Augmentation in the power of production, beyond all things else, is incapable of decreasing this. Taking the whole world together, one-half of the produce is the price of the other half, and is exchanged against it, in all cases. What can it matter whether the produce is ten or ten thousand, since it must afford the same power of buying, that it does of selling? That there may be a large demand, it is only necessary that there shall be large production.

Demand and supply are related in a particular manner. The same thing which, viewed in one

aspect, is demand, viewed in another, is supply. Every commodity is at the same time an instrument of demand, and a matter of supply; or in other words, is at the same time both bought and sold. Of two men who transact an exchange, the one has not a supply alone, and the other a demand alone: each has both. The supply which each brings is the measure of this demand, and his demand and supply therefore, are always equal.

But if each man's supply and demand are always equal, the aggregate supply and demand of all the men in a nation must be equal. Whatever therefore is the amount of the annual produce, it can never exceed the amount of the annual demand. There cannot be a general glut.

It is, however, very possible, and very common, for the market to be overstocked with particular commodities. Want of accurate information concerning the tastes or wants of the consumers, —errors in judgment on the part of the manufacturers,—derangements of old commercial relations between different countries, occasioned by war or the regulations of governments,—and even the caprices of fashion,—may glut the market with certain commodities. But this is a sign that the supply of different articles is ill proportioned; not that the whole supply is greater than the whole demand. The evil naturally cures itself, when governments do not interfere, and perpetuate it. Manufacturers, admonished by the fall of prices, will make every exertion to reduce the supply of the redundant articles; and at length, capital will find out new and more profitable channels. Increased knowledge and intelligence, increased facility of communication, increased love of peace, and increased freedom of trade, would do much towards the mitigation even of this partial evil. No part

of it, however, can be attributed to machinery. An instrument cannot be charged with the evil which is occasioned only by its imprudent use.

But the most able and zealous defender of machinery will not deny, that in spite of the greatest attention to the workmen's interest that can possibly be expected from the capitalist, those workmen who are actually deprived of employment by the introduction of new machines, must often suffer great, undeserved, and even protracted distress. This is a calamity greatly to be deplored; since it often falls, and is always liable to fall, on the best member of society, as well as on the worst. Nothing can be more afflicting than to see a good man, struggling desperately, and yet sinking at length under a power which, from the first, there was no chance of his overcoming.

But should this partial evil be taken in its utmost magnitude,—should it even be considered as a counterpoise to all the acknowledged benefits of machinery, the only inference that could be drawn, would be, that we must endure the evil: for the march of improvement cannot be arrested. The exercise of his natural right—the proud distinction of man—to push his researches to the full extent of his capacity, and to seize and supply the good he discovers, cannot be prevented, however it may be opposed. It may be suspended for a time, by the ignorance of governments; it may be clamored down by the prejudices of the people; but the living principle which is in it, can never be destroyed.

To deny that this blessing, as well as many other blessings that we enjoy, is productive of partial evil, would be uncandid and unwise. Every change produced by the substitution of a new machine instead of one more imperfect, of a cheap

machine instead of a dear one, is a misfortune to those who have been associated with the old machines. But this is a change that more or less affects the capitalist as well as the workman. In a commercial and highly civilized community, invention is hourly producing changes which affect some interests. Every new pattern used in the casting of hardware, injures, for the moment, the proprietors of the old moulds. The writing of every good book, concerning a subject which books, formerly written, treat upon, lessens the value of their copy-right. But these improvements are not therefore to be discountenanced. The evil is partial, and temporary; the good, universal, and lasting. Every improvement brings healing on its wings, even for those whom it wounds. If it displaces their labor and capital for a season, it gives new life to the general industry, and calls forth all labor, and all capital, to higher and more successful exertions.

The evil, however, is not hopeless. For its mitigation, there is one instrument, and that the most powerful within reach of man—knowledge. By knowledge, we do not mean the arts of reading and writing alone, which are only the keys to knowledge; nor even that converse with books, which elevates and refines the mind: but a sound, practical acquaintance with the elements of moral science, which teaches man his high duties—which convinces him that the sure way to happiness, and the path of duty, are *one*—and which thus places in his hand the sceptre of that noblest of all dominions—self-control. Together with this, he should acquire that familiarity with the properties of the things about him, especially their capabilities of being compelled to do him service, which discovers the extent of his dominion over the material world.

Both these pages in the great book of knowledge, should be thrown wide open to the laborer. He, also, should do his share, in studying them night and day; that part of the latter, especially, which treats of the mechanical arts properly belonging, or allied to his own trade.

Each of these branches of knowledge has its appropriate employment in counteracting the evils that attend the progress of machinery. Moral science, by rendering a workman the servant of reason and duty, rather than the slave of passion, will lead him to abstain from some present indulgences, for the sake of future good. One of the first consequences of this conduct, will be the laying up of a stock to fall back upon, when the machine takes away his employment. No power on earth can prevent this misfortune from happening; but previous carefulness may lighten its pressure in almost any degree.

The possession of natural science coming in to aid moral influence, will render it easy for him to exercise another employment, his savings keeping him above want while he is learning it, if learning should be necessary; or else his knowledge, joined with his capital, and his invention unclouded by intemperance, and sharpened by the occasion, may lead him to strike out a new occupation for himself*.

* The writer knows an instance which strongly illustrates this principle. An intelligent and sober man was bred as a weaver of woollen cloth. Hand-weaving becoming scarce, from the partial introduction of power-looms, he forsook the employment and became a cutter, or cropper of cloth on the surface. The cutting machines took away this employment; but in the mean time he had learned spinning, from his wife. In a short time, spinning also suffered from the machines called mules. As he now saw that machines would follow him every where, he wisely formed an alliance with the power he could not resist, and began to *make machinery*. His first step was the purchase of a lathe, and he soon learned to turn small wooden wheels, millions of which are required for the mules. Gradually he became

SECTION V.—*The cost of producing labor; and the habits and opinions of the laborer; as they affect wages.*

It is scarcely possible to determine on how little man can live, and continue his species; nor is it necessary that this should be done, in order to see that there must be a point somewhere, below which wages cannot be permanently reduced. If labor will not purchase sufficient both to support the laborer, and to rear children in place of the parents, the race of laborers must in time become extinct. Here then is a point below which wages cannot possibly fall, and remain. When level with this point, they have, for this reason, been called *necessary* wages. The *market* rate of wages, or that which is fixed at the moment, by the relation of capital to the supply of labor, may sink thus far, but can never continue lower.

The quantity of produce which the laborer must necessarily be paid, is determined by the quantity necessarily consumed in bringing him to market: or, in other words, the necessary wages of labor, like the average prices of commodities, are determined by the original cost. But this cost, in the end, consists of labor. If, therefore, the goods consumed in breeding a laborer, have absorbed a large quantity of labor in their production, and if the same expenditure is required to breed his successor, the price of new laborers must be high: that is, taking a commodity produced by labor and capital as 1, the laborer's share will bear a large proportion to 1. Hence it is, that in an advanced stage of society, the increased labor of producing food, renders wages high in proportion to profits.

a very expert turner, and was overwhelmed with work. He is now a master-manufacturer, and a real capitalist. This man was actually *hunted about by machinery, till he was at last compelled to take refuge in opulence.*

How small soever the produce, a certain quantity must be left to the laborer; and of course, as the whole produce decreases, less remains as the share of the capitalist.

There is another rate of wages, different both from the necessary and market rates. It is, wages sufficient, not only to supply the laborer with necessaries barely sufficient to maintain himself, and rear children, but to place within his reach whatever the customs of the country render it indecent for creditable people of the lower orders to be without. This, being a very important point in the scale of wages, seems to deserve a name; and as it chiefly depends on the public opinion of those who live on wages for its exact position, we may call the point itself, the *Contentive* point, and the wages, *Contentive* wages.

In some countries, the usual food of the poor is both expensive and abundant, compared to what it is in others. In England, for instance, laborers usually eat wheaten bread, meat, and vegetables, and drink tea, coffee, and beer; or at least they look on these articles as nothing above what people in their station ought to enjoy: while in China and Hindustan, the same classes live almost entirely on rice and water. In many provinces of France a certain quantity of wine is considered indispensable to a tolerable existence; and the same opinion is entertained with respect to beer or porter in England. In Hindustan the peasantry live in miserable mud huts, without window, chimney, or furniture; in our own country, they often have decent cottages, lighted with glass-windows, constructed with chimneys, furnished with numerous articles of convenience, and altogether as distinguished for cleanliness and comfort, as those of the Hindus are for filth and misery.

In consequence of these different habits, there is a great difference between the contentive rates of wages in these countries. One may be taken at two shillings a day on the average; the other is not more than three pence. It is equally plain also, that the contentive rate of wages in England, is now much higher than it was in the reign of Elizabeth; and that in Hindustan, it might be rendered much higher than it is by very obvious measures.

The contentive rate of wages therefore is not a fixed quantity. It has a decided tendency to rise when the market rate rises, and to fall when the market rate falls. When market wages rise, a period of eighteen or twenty years must elapse before the stimulus given to population can bring new laborers into the market. During all this time, therefore, the laborers enjoy a larger command over the necessaries and comforts of life; they form new and better habits, more exalted ideas of what is necessary to their comfort and respectability; and the rate of contentive wages rises.

But on the other hand, when the market rate of wages falls, no immediate diminution can take place in the supply of labor; a great quantity of which is already on the way to market. The ignorance of the sufferers respecting the source of their distress, will leave the evil to cure itself by slow degrees; and the supply will be gradually reduced by the increase of mortality, and, in some measure, by the absolute impossibility of marriage.

It is this circumstance—the impossibility of quickly adjusting the supply of labor to variations in the demand—that gives these variations their extraordinary influence on the condition of the laboring classes. If when the demand for labor increased, the supply could be immediately

increased, the laborer would not be benefited, because wages would not rise. On the contrary, if, when this demand diminished, the supply could be immediately diminished, he would be in no danger of sinking into lower habits, because wages would not fall.

If the laborers make the best use of a time of prosperity, such as occasionally visits commercial nations, they will certainly form new and improved tastes and habits; and after these are acquired, population will advance at a slower rate than formerly. Knowing the pleasure of easy circumstances, many will defer the period of marriage, rather than risk the depression of their own condition by marrying prematurely.

Under any considerable reduction of wages, the poor are compelled to economize, to live on a smaller quantity of commodities, and those too of an inferior sort. There is great danger that the coarse and scanty food and clothing which are thus forced on them at first by necessity, may at length become familiar and satisfactory, through habit. If this should take place, the cost of labor, and the market rate of wages, as well as the contentive rate of wages, will all descend to lower points. The debasement of the opinions of the laboring classes, respecting what is fitting for their enjoyment, is one of the most serious evils that can befal them. Once submissive under a low standard of comfort, they may long bid adieu to a higher. Reductions in the rate of wages must occur; and every one which is not very transient, will have these calamitous effects, except counteracted by the intelligence, spirit, and forethought of the laborers themselves.

The example of those who submit quietly to a reduction in their wages, and content themselves

with the bare necessaries of life, ought never to be held up for public emulation. On the contrary, every means should be employed to make such apathy disgraceful. The highest interests of human society require that wages should be high, that the comforts and luxuries of life should be widely diffused, and if possible, that a taste for them should be engrafted on the national habits and prejudices. "This," says Doctor Chalmers, "is one of those felicitous cases where the desire of good things is at length followed up by the power of obtaining them."

The state of the peasantry in Hindustan, furnishes us with a striking example of the calamities arising from the necessary and contentive rates of wages being fixed at a low point. The common Hindus have no taste for conveniences or luxuries; and if to a sufficiency of rice, a little miserable fish, and a sprinkling of salt, are added, they rest passive, if not content. But as rice is the cheapest food in the world, and as in a country where it forms the chief article of subsistence, wages are proportioned to its cost, we may easily foretel, that whenever a scarcity of rice occurs, famine must be the result. There may be food in the neighbouring countries, and even other food in his own country; but the Hindu's wages will not purchase any thing but rice—rice grown on the spot. Grain of other kinds is beyond his reach; and even rice grown abroad, because he cannot pay the expense of transport. When the standard of wages is high,—when wheat and beef is the laborer's food, and beer or porter his drink—when his house is well furnished, and his body well clothed—he can retrench in a period of scarcity. He can resort to oats, barley, rice, potatoes; sell his goods, and deny himself clothing: he has some distance to fall

before he comes down to starvation. But a laborer, who is habitually fed and clothed in the worst possible way, cannot fall lower. He stands on the edge of starvation, and a breath will force him over. This accounts for the famines which desolate Hindustan when the crops of rice fail; for the want and disease which prevail in Ireland when the crops of potatoes fail; and for the comparative freedom from all these miseries which is experienced in England, even when her harvests are most deficient.

CHAPTER IV.

THE PRINCIPAL LAWS WHICH REGULATE THE PROFITS OF CAPITAL.

General equality of profits in all trades.—Irregularities occasioned by extraordinary risk, or discredit, in employing capital.—Competition equalizes profits.—Distinction between profits and wages, sometimes not properly drawn.—Profits do not originate in exchanges.—The payment of rent does not determine the quantity of produce left for profits and wages.—The division of this quantity.—The influence which decreasing productiveness in agricultural labor has on profits.—That of reduction in wages.—Of importing raw produce.—Of agricultural improvements.—Of the accumulation of capital.—Conclusion, that profits naturally fall in the progress of society, from the increasing difficulty of procuring food.—Yet, that this cause must not be considered alone, as determining the rate of profits.

THE profits of capital employed in different trades must approach much nearer to equality than the wages of labor, for several reasons. First, because, so far as we can discover, no causes which would render profits higher in one trade than in another, could be without a similar effect on wages; while of those which do affect wages, only two exert any influence on profits. These two are risk and reputation. Second, because both risk and reputation produce very great inequalities in wages; while, as they affect all employments of capital more equably, the irregularities which they create in profits must be much less. From the absence of other causes of variation then, and the feebleness of these, the profits of capital employed in different ways, are much more nearly equal than the wages of labor.

There is always risk in the expenditure of capital. It is the parting with an actual possession for a future return, which possibly may not be made. But in many employments, the difference of risk

is scarcely perceptible. Here and there, however, a few cases occur, which deviate widely from the general rule. The profits of capital must therefore vary accordingly. A manufacturer of gun-powder, for example, incurs a very high risk,—not as to his life, that usually falls on the workman, and is paid for in wages,—but from the constant danger that exists of his capital's being totally destroyed by the chance falling of a single spark of fire. His profits therefore must exceed ordinary profits, at least by the expense of insuring his property, which cannot be effected except at a very high premium. This is almost the highest degree of risk to which capital can be exposed; yet the difference between the profits of the gun-powder maker, and those of the architect or cutler, is much less than that arising from the same cause, which exists between the wages of the sculptor and the peasant.

The repute attending various employments of capital seems to be very nearly equal. The respectability of a capitalist is proportioned to the quantity of capital he employs, rather than to the manner in which he employs it. We see great cotton-spinners, linen-drapers, brewers, clothiers. printers, in the House of Commons, sitting side by side with men of noble birth, and hands unstained by trade. Yet exceptions occur even here. The occupations of a pawn-broker, and publican are instances. The pawn-broker, from a natural, though perhaps weak, prejudice, is looked upon as nothing better than a convenient mischief. His profits therefore must pay him for this. Publicans also, from the nature of their calling, are despised, though in a less degree; and their profits exceed those of capitalists in general.

When moderate allowances of this kind have been made, it will be found that in all trades

profits are either equal, or strongly inclined to become equal. Even those capitalists who, from obvious causes, procure higher profits than ordinary, are wholly unable to force them above a certain point,—that which just compensates for the peculiar disadvantages of their callings. Should the rate of profit ever exceed this, it will outweigh the powder-maker's risk, the pawn-broker's disgrace, and subdue other people's reluctance to engage in their trades.

The grand principle which originates this general equality, and which always keeps on the alert to reduce any deviation from it to order, is the principle of competition. That keen perception which men possess of what conduces to their own interest, and their no less eager efforts to secure it when seen, never permit any one man, or one set of men, to engross a profitable employment of capital, nor to continue engaged in the opposite, a moment after they can escape. From the irregularity itself, springs the main cause of its destruction.

Of course these conclusions rest on the supposition that industry is free. The principle of competition is then irresistible. Whatever may be the possible disinclination of men to employ their capital in a particular trade, this very trade, for this reason, progressively augments its temptations; profits continually rise, and the reluctance at last must be overcome. On the other hand, whatever may be their reluctance to remove from a losing employment, profits becoming less and less every moment they stay, at length compels them to depart. The reluctance however seldom proceeds far; because the same causes which render large rewards irresistible, make traders willing enough to transfer capital on very slight

compulsion indeed. Nay, it is a matter of great contrivance with many, to hold their capital ready for transfer at a moment's notice.

Assuming industry then to be free, and allowing for risk and discredit, competition may be said to keep profits at the same point in all employments. Whenever profits in one trade increase, or decrease, and thus disturb the general agreement, competition never rests a moment until the irregularity is reduced to order. The making of a proper distinction between the profits of capital and the wages of labor, will often clear away apparent exceptions to the rule. Apothecary's profit is become a bye-word denoting something very extravagant. But the greater part of his profit is nothing but the wages of skilled labor. His occupation is a much more delicate and important matter than that of any artificer whatever, and therefore deserves a larger reward. But the whole of the drugs which an apothecary, in a considerable town, sells during the whole year, may not cost him £100. Though he should sell them then with five or six hundred per cent. profit, this may be no more than a reasonable reward for his labor, charged in the only way in which it can be charged, that is to say, on the price of his drugs. The greater part of his apparently exorbitant profit thus turns out to be wages in disguise. The same thing may be discovered in many other instances.

Profits, in the eye of the capitalist, consist of the excess of the price at which an article sells, above what is called its prime cost: and the rate of profits is the proportion which this excess bears to the capital expended. Thus, if a commodity on which only £100 were expended, is sold for £110, the rate of profits is said to be 10 per cent. or *ten to the hundred.*

Now in different employment of capital, and in the same employment at different times, this rate is different; but such inequalities, though of the first importance to the capitalist, are of little moment to the Political Economist. They are all temporary, from their nature, though of longer or shorter duration, according to circumstances; and besides, if in some trades they vary in one direction, in others they vary in the contrary. Distinct from actual rates of profit, there must be an *average* rate; and this alone can be the subject of general principles. The chief circumstances which regulate the average rate of profit, will be traced: those which determine the rate of profit in a particular trade, are innumerable, extending from the general principle of demand and supply, down to the individual prudence and skill of the capitalist.

These therefore are the concern of the merchant and manufacturer, not of the Political Economist.

It is often thought that profits depend on exchanges; but this is a mistake. The paper-maker who sells paper for £50, which cost him only £40, does not make his £10 of profit at the expense of his customers. The goods which he takes in exchange, do, on the average, yield to their makers exactly the same rate of profit. If he exchanges the £50 worth of paper for a machine, the machine will only have cost its maker £40; so that neither manufacturer gains any thing from the other. Profits, in all cases, result from the circumstance that more is made in a given time, than is consumed in that time. The sole advantage of exchange consists in its creating division of labor, and thereby augmenting the excess of what is produced above what is consumed.

We have shown that the whole produce of a society is at first divided into three, and not more

than three portions,—rent, wages, profits. And we have shown also that rent is governed by laws peculiar to itself;—that its payment, not being an element of cost, does not affect prices;—and that this payment serves merely to equalize the returns to different portions of labor and capital employed on the land, which returns would be unequal were it not made.

These equalized returns therefore belong to the capitalist and the laborer jointly: and whatever, at a given moment, determines the share of the laborer, determines the share of the capitalist also. If the laborer's share is three-fourths, the capitalist's can be only one-fourth.

The portion taken as the joint share of wages and profits, does affect rent; but the converse of this assertion is not true. The portion which shall be left for wages and capital together, is determined, not by rent, but by the cause which determines rent itself, namely, the magnitude of the returns to that portion of labor and capital which is employed with least effect, *(page 191.)* If a certain quantity of labor and capital produce 100 quarters of corn, out of which 20 quarters are taken for rent, the reward of labor and capital is not 80 quarters, because rent is 20 quarters, but because, to procure the necessary supply, another portion of labor and capital, equal in amount, is employed with a return of 80 quarters *alone*. This is the cause which, by first determining what shall be allotted to labor and capital, determines what shall be left for rent. Rent therefore has nothing to do with the regulation of wages and profits: the common quantity allotted to these is beyond its influence.

The laws which determine how this joint portion shall be divided, remain to be expounded. Suppos-

ing the returns to labor and capital a fixed quantity, the wages of labor will depend on the amount of capital which exists, compared with the number of laborers; and of course profits will depend on the same. If the ratio of capital to labor is great, wages will be high, and profits will be low; and the contrary. The common principles of demand and supply solve this case in a moment.

But the returns to labor and capital are not a fixed quantity. This year, 100 days' labor and £10 worth of capital, may produce five quarters of corn: while a few years hence, the same may produce only three quarters. Now supposing the relation between capital and labor, or wages, to remain constant, profits will vary from the diminished return alone. They will become less.

Thus profits may rise or fall from circumstances belonging to either of two classes: the first containing those which produce variations in the joint returns to labor and capital; and the second, those which produce variations in the share of these returns allotted to wages. There are circumstances in each of these classes, sufficiently powerful to occasion all the variations to which profits are subject. If one class only acted, its operation would be simple. It is their combination, and their acting sometimes in conjunction, and sometimes in opposition, which occasion the difficulty of accounting for practical variations in profits. By taking each class singly, we shall be enabled better to ascertain the peculiar nature and tendency of both, and to estimate their mutual disturbances afterwards.

Variations in the productiveness of labor and capital, originate in several circumstances. The most important variation of all, arises from the limited fertility of the earth, *(page 218.)* Let this cause operate singly. Wages must then be taken

as a constant quantity ; not, however, as prevented from changing by constancy in the *number* of laborers, but by constancy in the *ratio* between their number and the amount of capital existing. The influence of improvements in agriculture, and of raw produce drawn from foreign soils, must be either excluded, or considered constant. It will then become apparent that there is a cause, which in the progress of society, tends to reduce profits lower and lower, and at last to nothing.

The increase of population, time after time, forces labor and capital on less and less fertile soils, and on the more fertile, with less and less effect, *(page 193.)* The joint portion of labor and capital is thus regularly and gradually decreased ; and as the wages of labor, by our hypothesis, continue the same, wages must gradually encroach on profits, until profits are totally absorbed. On removing obstructions to the free motion of a magnetic needle, we discover that it points to the pole, and we call this its natural direction. On removing obstructions to the course of profits, we find that they tend to become nothing, and we may, in like manner, call this *their* natural direction. A needle thrown on the ground may lie with its north pole towards the south : exactly so from various obstructions to their natural course, may profits rise.

But let us set loose the imprisoned causes on the uniform and natural course of profits, and mark the disturbances that ensue. As capital increases, population increases, and usually in a higher degree. The reward of the laborers will be diminished, exactly as their numbers increase in comparison with capital. Hence capital will obtain a larger portion of the joint produce.

This augmentation, however, carries its limits within itself. If the physical wants of the laborer

were capable of being decreased, as the produce decreased, profits might never fall. But these wants always remain nearly the same; and though, in the progress of society, they are seldom fully supplied, the capitalist obtaining the saving; there is evidently a limit to the quantity taken from them, which cannot be passed. A certain quantity of food is necessary. If this be not given, population will not keep up its numbers; and the profits of capital will then begin to decline from another cause. The ratio of capital to labor will increase, and its increase will certainly augment wages. As poorer lands therefore are taken into cultivation, wages cannot be decreased in the same proportion that the produce is decreased; and in spite of the partial effect of certain diminutions in wages, profits still retain their tendency to fall, until the further accumulation of capital becomes impossible.

The import of corn, and other raw produce, is the next cause by which the uniform diminution of profits, arising from the limited powers of the soil, is liable to be interrupted. It is clear that the purchase of these commodities from people less advanced in civilization, may long delay the necessity of cultivating poor soils at home. Only the finer lands being cultivated, the greater part of a nation's capital and labor may be employed on manufactures, for the purchase of raw produce abroad, and for the home consumption. Thus the returns to the least effective portions of labor and capital,—which are identical with the joint reward of labor and capital,—may continue large; and though wages should at the same time be even moderately high, still profits may remain high also, and that for considerable periods.

But this check to the natural course of profits, like the former, has its plain limits. The same

difficulty, arising from poor soils, which is avoided at home, will at last begin to operate abroad; and the sooner, in any country, for the precise reason that it supplies another with raw produce. Unless something worse happen to civilization, the poor soils must at length be cultivated; if not at home, yet abroad. Food therefore will gradually rise in value, until it becomes better to cultivate worse land at home, than to purchase corn from abroad.

Thus, profits regain their downward direction. The returns to labor and capital employed on land continually decrease. Out of what is produced, the laborer must at least obtain necessary wages. Profits therefore will progressively fall.

But it may be asked, why should manufacturing profits decrease, seeing, that although inevitable causes force down agricultural profits, no such causes influence manufactures; the labor and capital employed in which, continually increase in productiveness. It is no doubt true, that a given quantity of labor and capital does, from time to time, produce larger quantities of manufactured articles. But it is clear also, that the value of these articles, compared with raw produce, must fall from this very cause alone, and much more from the greater labor required to produce food. As the returns to manufacturing labor and capital then become larger in quantity, the laborers must have an increasing proportion of them in order to purchase food, leaving less for profits. Manufacturing profits therefore cannot but decline.

Nor is it possible that manufacturing and agricultural profits should ever remain unequal. If manufacturing profits are the greater of the two, capital will immediately be withdrawn from agriculture. The supply of food will then be diminished,

and its price will rise; thus rendering it necessary to raise wages in manufactures, which, of course, will reduce profits. Profits falling in manufactures, and rising in agriculture at the same moment, a due amount of capital will quickly find its way back to agriculture. Food must be had, and if one portion of labor and capital is insufficient to produce it, a larger will be applied. Capital therefore cannot be withheld from agriculture. But if agricultural profits must fall, all profits must fall, for all profits must be equal.

The uniform decline of profits, arising from the diminished productiveness of labor and capital, is also disturbed by agricultural improvements. These increase the joint returns to labor and capital; and there is consequently a larger portion available for profits. Permanent improvements in agriculture, including improved implements and machinery, as well as improvements in the system of cropping and managing the land itself, are one of the most important subjects within the range of Political Economy; because such improvements open an arena for the possible employment of labor and capital with undiminished, and even increasing returns, to which we cannot, without presumption, set any limits. This is the quarter which affords the broadest and firmest ground for hope. What man *can* do, we know not. With how little labor he may hereafter raise food on what *we* call poor soils, it would be folly for us to determine. We cannot conjecture, what changes future Chemists may effect in the soil itself, or in its coarser, and even useless produce;—nor what machinery may be set in motion, to tear from the bosom of the reluctant earth new sustenance for human life, and compel her to unfold sources of wealth now unthought of and unknown.

This however may safely be asserted; that successive improvements, such as some which *have* been made, might not only enable a country to employ labor and capital for ages with undiminished productiveness, but might roll back the natural course of profit, by making this productiveness continually increase. If man is destined to proceed in the career of civilization, so far, as judging from his past steps and unexhausted faculties, we suppose he can proceed, it is, to say the least, highly probable, that seeing his difficulty more clearly, and possessing greater powers to grapple with it, than at present, he will effect such improvements, time after time, as become necessary to clear his onward path. Hitherto they have usually been struck out when the need seemed at its height: and a certain stimulus of this kind appears almost necessary to the execution of any remarkable step in the career of human improvement.

Yet, allowing this cause, or check, all the weight which, considering its contingent nature, can safely be allowed, profits still retain their strong natural tendency to fall; and they will certainly manifest this tendency, in the intervals between successive improvements. All land will never be made uniform in quality. But as poorer soils are taken into cultivation, the rate of profits must decline. Profits cannot exceed what the produce of the worst land actually cultivated will allow. In the ascending scale, this is a limit which cannot be passed.

Still, limitation is essentially different from regulation. In the descending scale, profits may be lower in any degree. There is here no controlling necessity: and below the highest point which the actual produce of labor and capital will allow, ample scope exists for the operation of other causes.

The second class of circumstances which produce variations in profits, are those by which a greater or less portion of the returns to labor and capital is allotted to wages. These we considered at length in the last chapter. Several causes were found to act on wages remotely; but directly, wages are governed by the ratio between labor and capital. This therefore is a cause which is capable, alone, of producing the greatest effects on profits, within the impassable limit assigned to their augmentation by the cause just dismissed. On the supposition of adequate variations in the ratio between labor and capital, all the effects might be produced on profits that can be produced by the first cause, and in a much shorter time.

When capital is really abundant compared with labor, neither the greatest facility of production, nor any other cause, can prevent high wages and low profits. But to ascertain more clearly the power which an alteration in the ratio of capital to labor exerts on profits, let us consider it for a moment as acting singly; by supposing, that while the capital of a country continues to increase, the increase of population is checked by some miraculous influence.

If population came to a stand at an early period of society, capital would be scarce compared with labor; while from the fertility of the land cultivated, the return to labor and capital would be great. A large proportion of this return therefore would be allotted to capital. Profits would be high, and wages low.

But as capital became more abundant, compared with labor, less of their joint produce would be allotted to the share of capital, more to the share of labor, on the common principles of demand and supply; and profits would be gradually reduced,

until, by successive reductions, the power to accumulate ceased to exist.

Profits in this case would be diminished exactly as in the present state of things; but rent and wages would be extremely different from what they are now. Rent would not be high. By our supposition, the number of laborers was limited while land of considerable fertility remained uncultivated. The rent of land would depend on the small gradations amongst fertile lands that had been taken into cultivation before the population came to a stand. The difference between the produce of the best land cultivated, and the worst, (both kinds being fertile,) would be small: and no more than this difference could possibly be appropriated by the landholder.

As to wages, they would continue to rise; and would give the laborer a greater command not only over manufactures and foreign produce, as in the present state of things, but over corn and all other necessaries; so that his condition in all respects, would become better and better, as long as capital continued to increase.

In short, of the three great portions into which the produce is divided, two, rent and profits, would be small, because both the supply of land and of capital, would be abundant compared with the demand; while the other, wages, would be very large, because the supply of labor would be scanty compared with the demand. Thus the magnitude of each share would be determined by the great principle of supply and demand.

This supposition shows the extraordinary power possessed by the laboring classes of society; and the influence it would have on their condition, if they chose to exert that power. The check to population which was supposed to be occasioned by a

miracle, might, in reality, be created by the prudence of the poor. They may complain that of the vast mass of produce obtained from land, labor and capital, so small a portion should fall to them. But the division is determined now, and must be determined for ever, by the unalterable laws of demand and supply. Were the market understocked with labor, wages would be high, as certainly as they are low at this moment. The rich can do little to keep the market for labor from being glutted. Yet every effort to ameliorate the condition of the poor, that does not either begin or end here, is perfectly futile. The poor are in reality the arbiters of their own destiny: all that others can do for them is as the dust of the balance, compared to what they can do for themselves. These truths are so important, so vital to the happiness of mankind, that they cannot be too often repeated.

The effects which would result from the supposed check to population show, that the increasing quantity of labor required for the successive cultivation of poorer soils, is not theoretically necessary to any fall of profits between the highest point and the lowest. Other causes, and chiefly the increase of capital faster than population, may produce the same effects.

On the whole then, it appears, that there is, as society advances, a natural and necessary tendency in profits to fall, owing to the increasing difficulty of procuring food;—but that though this principle is of the greatest power, and indeed of such a nature as finally to overleap every obstruction, yet its operations are extremely low and gradual;—and that while it is urging profits, with steps scarcely perceptible, to their ultimate destination, there are other causes, which may entirely overcome it, for twenty, or thirty, or a hundred years

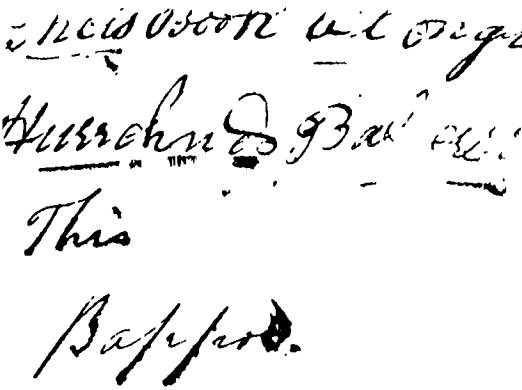
together, and make profits take a direction absolutely contrary to the one impressed on them by itself.

Hence we cannot judge of the probable course of profits at any particular time, by considering the prime cause alone. Scarcity of capital, improvements in agriculture, purchases of foreign produce, continually interrupt and delay its progress; so that in any period of the last or coming centuries, it might safely be asserted, that profits had depended, or would depend, much more directly on these causes, especially the ratio of capital to population, than on the decrease of the productiveness of labor and capital.

The variations in profits could not be traced through all their effects on prices, without much labor and much space; nor is it necessary that they should be, in a work like this, which professes to deal only with general principles, and their more obvious effects, as illustrations.

Should the reader be inclined to pursue the study of Political Economy, to which this book is meant only as an introduction, he will find in Malthus, Ricardo, and Say, ample materials, concerning profits, and other subjects which here have been scarcely noticed, for assent, dispute, and reflection. Through all, we wish him good speed.

THE END.



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Government of Maharashtra
on 15 March, 2016